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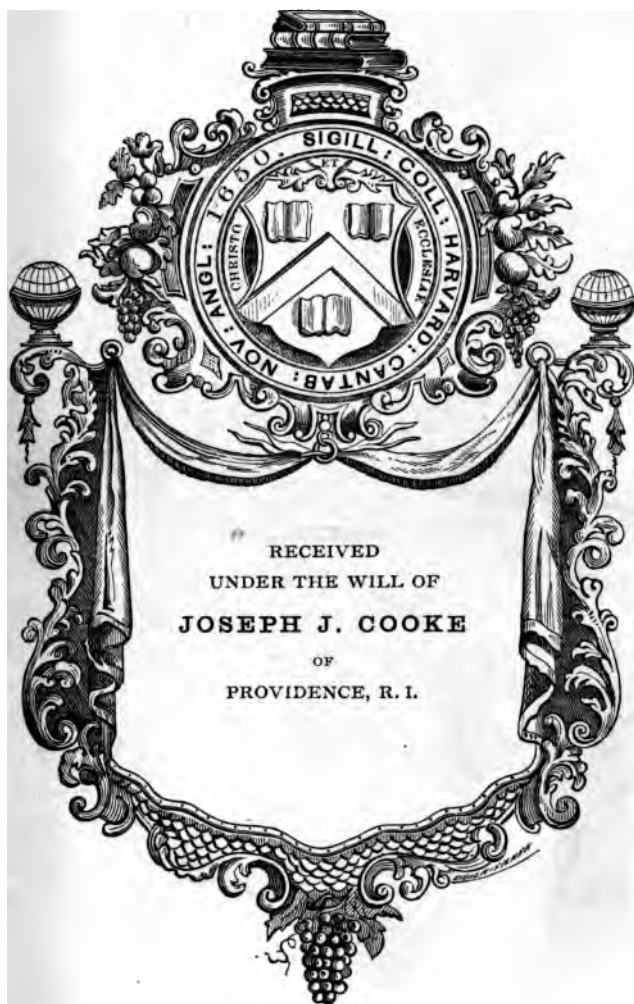
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DISCOURSE
OF
THOMAS JEFFERSON.
MORE ESPECIALLY AS
A Promoter
OF
NATURAL & PHYSICAL SCIENCE,
Pronounced before the New-York Lyceum.
By
BY SAMUEL L. MITCHILL.



©

A

DISCOURSE

ON THE

Character and Services

OF

THOMAS JEFFERSON,

MORE ESPECIALLY AS A

PROMOTER

OF

NATURAL AND PHYSICAL
SCIENCE.

*Pronounced, by request, before the New-York Lyceum of Natural
History, on the 11th October, 1826.*

BY

Samuel L. Mitchill,

SAMUEL L. MITCHILL,

A Supporter of his Administration, three years in the House of Representatives, and five
in the Senate of the United States; Member of the American Philosophical
Society at Philadelphia; of the American Academy of Arts and
Sciences at Boston; of the Antiquarian Societies at Wor-
cester and Nashville; Member of the Literary
and Philosophical Society at New-York;
President of the Association for
instructing the Deaf and
Dumb, &c. &c.

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*Lyceum of Natural History,
New-York, Oct. 16, 1826.*

SIR,

*In compliance with a Resolution of this Society, we
have been appointed a Committee to solicit a copy of your Eulogy
upon Mr. Jefferson for publication.*

Very respectfully,

Your obedient Servants,

*SAMUEL AKERLY,
JAMES DELAFIELD,
JOHN J. GRAVES.*

To Dr. S. L. Mitchill.

A DISCOURSE,

&c. &c.

GENTLEMEN,

THE removal by death of a citizen who had been elected an honorary associate of this Society, in 1817, has served as a warning to the surviving members. They have determined, in the spirit of good feeling, to perform an act of respect toward THOMAS JEFFERSON. His name is registered in our book, with those departed worthies Haüy and Correa ; in honour of whom, with all their virtues and merits, we have decreed no ceremonial. Indeed, occurrences of this solemn kind are so frequent that, if funereal discourses were to be pronounced upon every defunct individual, the time and talent of the living would be too much devoted to the deceased. The wisest course, therefore, seems to be, to let the multitude go and rest in their long homes, without expending upon them unnecessary words.

There are, nevertheless, exceptions to the general remark ; Persons now and then exist, whose lives and actions afford materials for the instruction and amendment of the human race. To those who have ceased to be inhabitants of this world it is, probably, a matter of no moment whether the biographer shall celebrate them, or not. Still there is a tribute due to their worth. A good name is part, and a most important one too, of a family inheritance. The hope

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There is perhaps no written composition so generally admired by our citizens, as the Declaration of Independence, by our United States of America in congress assembled, on the fourth day of July, 1776. This famous paper was prepared by a select committee appointed on the 11th of June preceding; consisting of Messrs Jefferson, J. Adams, Franklin, Sherman, and R. R. Livingston. The chairman has the credit of having composed it. The resolve "that the colonies are and of right ought to be, free and independent states; that they are absolved from all allegiance to the British crown; and that all political connection between them, is and ought to be totally dissolved," was agreed to on the 10th. On the 1st July, the report was considered in the committee of the whole. This was afterward done on the 2nd and 3rd; and it was finally adopted on the 4th. For sententious brevity, strong expression, and orderly disposition of the topics, the reading of it always brings to my mind that incomparable performance, the Litany of the Christian church. In this, miserable sinners invoke the father of heaven; in that, suffering subjects submit facts to a candid world. In the latter, the One in Three is entreated to spare from all evil and mischief those who have been redeemed; in the former, a worldly prince, for a continuance of cruelties, is denounced as a tyrant, and unfit to be the ruler of a free people. In the Litany, the church supplicates blessings and comforts from a being willing to grant them; in the Declaration, the nation puts at defiance the power that neither pities nor forgives.

The reputation acquired by this spirited, able, and patriotic art, was in due time succeeded by his appointment to the office of Governor. While in this situation, he availed himself of the opportunity to procure correct and detailed information relative to almost every department of the State and its Government. It is much to be wished other executive magistrates would follow the example.

About five years afterwards, that is, during 1781 and 1782, before the termination of the revolutionary war, were written his celebrated notes on Virginia. A few copies were

soon printed and distributed among his friends ; and a translation, with such modification as the laws of the press rendered necessary, was published in France. In 1787, he published the whole, in their original form and language. The work purports to have been written in answer to queries proposed to the author, by a foreigner of distinction then residing in the country. These are twenty-three in number. The information relative to the military and marine force, to counties and towns, to the constitution and laws, to religion and manners, to the public revenue and expence, is not especially needed in the present enquiry. Nor is there any thing very material for our purpose, in the disquisitions on tories, manufactures, commerce, money, histories, memorials, and state-papers.

But the book treats of several other matters which lie fairly within the province you have allotted to me. On the extent of the commonwealth, he makes a calculation that the area within the boundaries amounts to one hundred and twenty-one thousand, five hundred and twenty-five square miles, which is one third larger than the two islands of Great Britain and Ireland. Though, to render the conclusion correct for the geography of the present day, Kentucky must be deducted ; as also all the bed and islands of the river Potomac whose southern margin is the Virginia boundary.

The description of the rivers is instructive as it announces their fitness for navigation ; but the introduction of the Mississippi, the Missouri, the Kaskaskia, the Illinois, the Alleghany, the Muskingum, the Scioto, the Wabash, and the two Miamis, with an account of Virginia, is, as the lawyers say, travelling somewhat out of the record. In his observations on the Mississippi as one of the principal channels of future commerce for the regions situated west of the Alleghany mountains, he speaks of the current as too rapid to be stemmed by the force of wind alone acting upon sails ; and decides, that a vessel navigated with oars may come up at any time, and receive much aid from the wind. At the old rate of passing up and down, a batteau went in three

weeks from the mouth of the Ohio to that of the Mississippi ; and occupied from two to three months to get back again. The introduction of steam, for propelling boats, has made extraordinary alterations in the conduct of this business ; such as the author, with all his perspicacity, could not be supposed to have foreseen. (Page 7.)

In his reflections upon the modes of connecting the Western waters with the Atlantic Ocean, (page 18,) he discusses the facilities afforded by the Hudson, the Potomac, and the Mississippi itself. Under a conviction that all heavy commodities will pass down the latter, and that the men who conducted the arks, rafts, and productions with which they were freighted, would go home in light boats or by land, he supposes the main competition will be between the two former. After a laboured comparison, he concludes, like a man of southern interests and feelings, in favour of the Potomac ; through a rational deduction from an estimate of distances and of impediments, as they present themselves on both routes. He could not have foreknown, with all his sagacity as a politician and an economist, the completion of a canal, for internal navigation and intercourse, extending from Albany to Buffaloe, a distance of more than three hundred miles. It was not to be expected he could have predicted that New-York should have performed the work from her own resources, unassisted by the national government or any other auxiliary. There was something far beyond the reach of the most consummate calculation of the time, that the vast work, began on the 4th July in the year 1817, should have been brought to a final conclusion, on October 26th, 1825, a little more than seven years after ground was broken.

Virginia will have the pleasure, reward, and instruction of following so capital a precedent. The book published in quarto by the common council of New-York city, is a splendid exhibition of the canal operations, from their beginning to their ending.

His notices of the mountains are brief, inasmuch as he refers for their particular geography to Fry and Jefferson's

map of Virginia, and to Lewis Evans's analysis of his map of North America, for the most philosophical views of them. Reference may now be had to Volney's book on the United States, and to Madison's Map of Virginia, for still more recent intelligence. He mentions them truly as not being solitary or scattered confusedly over the State, but as commencing at about 150 miles from the sea-coast, and disposed in ridges, one behind the other, in a course nearly parallel with the coast; that is, N. E. and S. W.; though rather approaching it as they proceed north-easterly. To the south-west they converge into a single ridge, called the Apalachian mountain. The great dividing chain is the Alleghany, which is not penetrated by any water-course; while the North Mountain, the Blue Ridge, and other elevations, are broken through by James River and the Potomac as they force their way south-eastwardly.

The remarks he makes on the moderate height of our mountains are the result of observation. The Peaks of Otter are considered as being about 2000 feet above their base: and these are the most elevated in Virginia. And, to be sure, the round top of the Kaatskill in New-York is only 3804; and Killington Peak in Vermont and the White Mountains in New Hampshire, are not sufficiently elevated to be the bearers of perpetual snow, nor to class with the Alps, the Andes, and the other lofty summits of the globe. (See Note A.)

The passage of the united waters of the Shenandoah and Potomac through the Blue Ridge at Harper's Ferry, is written with the emotion and wonder of a young traveller. The colouring is so high, that many persons who have been induced to visit the place, have returned with disappointment. I am one of that number, having deliberately examined it in 1812. The scenery is really picturesque and sublime: but, in my judgment, is much inferior to the transit of the Hudson through the Highlands in New-York.

The substance he mentions as a pumice-stone, that comes floating down the Missouri, is supposed to have been formed by the fire of the burning banks, or plains as they have

been sometimes called. It is said that beds of ignited coal, near the margin of that copious stream, have scorified some of the overlaying materials, and converted certain of them into this light and porous substance.

The answer to the fifth query, which treats of cascades and caverns, comprehends the information he had prepared for his friend on those subjects. The only memorable descent of water he thinks it worth the while to introduce, is that of the falling spring in Augusta. This proceeds from a source near one of the heads of James river, which, at about three quarters of a mile from the spot from which it gushes, is precipitated two hundred feet into the chasm below. The stream, which is 12 or 15 feet broad above, is broken two or three times in its breadth, but not at all in its height; and at the bottom, there is a space between it and the rock sufficiently wide to permit a visiter to pass dry between them.

The Lime-stone region is remarkably diversified there as in other countries, by excavations. The hollow and chambered spaces are numerous. Among them he particularizes Madison's and Zane's Caves; the former dripping with water that forms numerous and large stalactites; and the latter profound enough to preserve an uniform temperature of 57°. The *Blowing Cave* is described as it exists near the Panther Gap, as having a diameter of one hundred feet in a side-hill, and as emitting perpetually a current of air strong enough to prostrate the plants in its passage to the distance of twenty yards.

He mentions also a blowing cave in the Cumberland mountain, which intermits. The theory of both, especially of the former, requires further solution. He next gives a circumstantial account of the natural bridge, as it has been called, over Cedar Creek in Rockbridge County, which affords a public and convenient road across a ravine that cannot be traversed in any other place for a considerable distance. The calcarious material of which this connecting mass consists is 45 feet long at the bottom; and 90 at the top; it is sixty feet broad in the middle, and wider at the ends; and

the depth of the fissure, over which the arch expands is more than 200 feet. Chattleux has given a very good print of it in his book of travels ; and it well deserves the conspicuous situation it occupies. But when our author pronounces it " the most sublime of nature's works," (page 30) he certainly forgot the mountains of Kimmalaya in Tibet, the stormy ocean, the sun and his accompaniment of planets, and the starry firmament at night ; and when he declares that " it is impossible for emotions arising from the "sublime to be felt beyond what they are there," he did not recollect the avalanches from the Alps, burying whole villages with ice and snow ; the winds of Arabia, covering entire caravans, on their march with suffocating dust ; nor the eruptions of Vesuvius and other volcanos, overwhelming villages and plantations with torrents of melted lava or showers of igneous stones.

The replies to the sixth query seem, however, to contain the most elaborate and pointed of all his statements. After offering what he knew, concerning the mines and subterranean productions, such as gold, lead, copper, iron, plumbago, coal, emerald, amethyst, marble, limestone, marle, salt, and some others, he mentions the organic remains existing in Shistus, of which there are extensive strata, near the eastern base of the north mountain, presenting the resemblances of shells. He had received, besides these, petrified shells from the sources of the Kentucky river, which bore no resemblance to any he had ever observed on the tide-waters. To account for these oceanic and other remains raised so high, and in the Cordilleras, as Abbadia states, to an elevation of 15,000 feet above the main ocean, he quotes the three hypotheses which have been proposed : 1. The operation of an universal deluge : 2. In times anterior to tradition or history, a heaving up of the bed of the ocean, by some enormous convulsion of nature with its molluscous and other creatures : and, 3. A whimsical notion that the relicks under consideration are *erroneously* ascribed to animals ; inasmuch as they are mineral formations, assuming by their natural configuration, the shapes of shells ;

at first microscopically small, and afterwards enlarging with the stone! All these are dismissed as unsatisfactory; and the phenomena left for his successors to explain.

After noticing the warm, hot, sweet, and other medicinal springs, he mentions the issues of hydrogenous air, in several places, capable of being inflamed by a lighted candle, and of burning afterwards for several days without extinction: of the same kind with that which in New-York has been employed by the hunters to boil water for cooking, to supply a village in Chatauge with gas-light; and a light-house along Lake Erie with an unceasing supply of material for directing navigators on their voyages. He then comes to such enumeration as he has prepared, of vegetables; referring to Clayton's Flora, as edited by Professor Gronovius, for more minute and detailed particulars. His very brief lists contain the species he names under the titles of medicinal, esculent, ornamental and useful for fabrication. There is no harm in-observing that the inquirer of the present day will obtain more ample intelligence from the publications of the Michaux, Pursh, Eaton, Torrey, and the recent botanists of our region.

His great strength is expended on the Zoology of Virginia; and indeed from the extent of his survey, of the two Americas. Two distinguished Europeans had taken the liberty of undervaluing the climate, and disparaging the productions of the animal race belonging to the western hemisphere. These were the Count de Buffon, intendant of the King's Garden and Museum in Paris, and the Abbé Raynal who wrote the History of European settlements in the Indies.

Mr. Jefferson encounters with great intrepidity and complete success the opinion advanced by Buffon, "that the animals common to both the old and the new world are smaller in the latter; that those peculiar to the new are on a smaller scale; that those which have been domesticated in both, have degenerated in America; and, that on the whole, it exhibits fewer species." The admirable zoologist of France, ought to have known better than to

have published such a crude and wrong-headed decision. He was in an egregious error; and fashionable as that blunder was, our fellow-citizen has completely exposed and refuted it. This he has effected both by reasoning and by fact; and on the latter point, has appealed to the final and unanswerable judgment of the balance. That the matters in difference should be fairly displayed, he has arranged the animals under three heads. 1. Such as are aboriginals of both hemispheres: 2. Such as are aboriginals of one only: and 3. Such as are domesticated in both.

The inquiry relative to the first head informs us, that of the twenty-six quadrupeds common to the two continents, 7 are reputed larger in America, 7 of equal size, and 12 not sufficiently examined. The proceeding under the second head has this result; that there are 18 quadrupeds peculiar to Europe, while there are 74 peculiar to America; and that one of these, the Tapir, outweighs all the Europeans put together. The conclusion from the third head, that of the quadrupeds domesticated in both countries, such as kine, horses, swine, sheep, &c. is, that with equal food and care, the climate of America will preserve the races of domestic animals as large as the European stock from which they are derived. In short, he may be considered as having obtained a glorious triumph over the prepossession and prejudice he combats.

He next examines the dogma of the Count which extends the vilifying and deteriorating effect of the American climate to the human inhabitant, and affirms that the man of the western hemisphere, whether indigenous or introduced, is a degenerate being. After an able and satisfactory vindication of the Indian natives, he modestly suggests a doubt "whether (page 93) the bulk and faculties of animals depend on the side of the Atlantic on which their food happens to grow, or which furnishes the elements of which they are compounded?" and also, "whether nature has enlisted herself as a Cis or a Transatlantic partizan?" For myself, I am persuaded, from careful examination of the evidence, that the men of Asia and America are radically

the same on both continents and their islands ; Malays in the south, and Tatars in the north ; with an intermixture of races between. And, a comparison or a contrast between an European and a Siberian, a Chinese or a Polynesian, would be quite as sensible and edifying as the one instituted between that race and the American.

Having shown that the American native possesses a full proportion of mental energy and corporeal vigour, he proceeds to the consideration of the paucity of genius and talent, which, according to the Abbé Raynal, characterizes the descendants of European emigrants. " One may well " be astonished," says he, " that America has not yet produced a good poet, an able mathematician, a man of genius in a single art or a single science." (7 Hist. Phil. p. 92.) This assertion Mr. Jefferson indignantly and completely repels. Still the presumption and pride of Europeans admit of explanation. They were the colonizers of America. The emigrants they sent forth were under their laws and government. For a long time, in many settlements, there were very deficient means of education for the children of the emigrants. Offices of almost all kinds were filled by Europeans. The most important civil and military places were occupied by persons of such origin. Preachers, schoolmasters, lawyers, and physicians, were abundantly supplied from the same sources. The *Mother Country* and the *Father Land* were familiar terms, expressive of the dependence of children upon parents ; and in some instances, the relation bore a strong resemblance to that subsisting between servants and masters. This assumed superiority begat by degrees a corresponding sense of inferiority. The Colonists and their offspring really believed that Europeans of the country from which they themselves derived origin, were a more exalted race of men ; and for a long time yielded to their arrogant claims of supremacy. Even now, after the lapse of half a century, the humiliating sentiment has not wholly disappeared ; for it is not yet obsolete, in mentioning a voyage to Great Britain, to speak of it as " going home." In addition to this circumstance, it

may be observed, that the disasters of life, the hardships of adventure, the hazards of war, and even the arrival of old age and death itself, are all charged to the infelicity of the climate to which the adventurers were exposed. Thus, the Creoles, or descendants of Europeans, acquiescing in the notion of their own inferiority, were under the necessity of struggling a long time to regain their lost character. It required more than pacific activity and talent ; nothing less would do than the assertion of their discovered and asserted right by force, whereby it was proved to the whole world, that they possessed the moral and physical qualities to bear them to independence through war. Mr. Jefferson, in stepping forward as he did in favour of American power, may be almost said to have proclaimed emancipation a second time.

His list of birds is confessedly borrowed from Catesby, and nothing at all is given about insects and fishes.

To his observations on Albinos may be added, that they are varieties happening occasionally in all the races of men, red, white and black ; and that negroes have now and then actually turned white without incurring the tint of Albinage. It is worthy of note too, that other animals, such as rats, mice, rabbits, minks, beavers, crows, grakles, robins, and various others are known to display at times this peculiar hue, and the corresponding redness of eyes.

As regards the honey bee, which the author denies to be a native of our continent, Dr. Belknap has sufficiently shown that it is indigenous in the south, and has been imported into the north.

But, next to man, the article of Zoology, which he has laboured with the greatest study, is that of the huge Mastodon, called by the Indians the big Buffaloe, and by our white inhabitants, the Mammoth. (Page 55, 62, 73, and seq.) He maintains the doctrine, " that such is the economy of nature, that no instance can be produced, of her having permitted any one race of her animals to become extinct ; of her having formed any link in her great work so weak as to be broken." He supports, of course, the ne-


tion that individuals of the Mammoth are yet alive. Within a very few years, a written communication was made to me from the Prairie du Chien, in which the respectable writer entertained a similar belief. The evidence, nevertheless, is far from being conclusive. This enormous animal is now considered by the best judges to be extinct, as scores of other tribes are which have once been inhabitants of the globe. He, however, justly concludes, that the bones and teeth alone should have sufficed to rescue the earth, the animal it inhabited, and the atmosphere it breathed, from the imputation of impotence in the conception and nourishment of animal life on a large scale.

The caverns abounding with the nitrous acid are some of the very memorable things the State contains. From the experiments made during the late war of 1812—14, upon the saltpetre they are capable of affording, there is every reason to believe our country wholly independent of every other in this essential ingredient of gunpowder. The caves consist of calcarious carbonate. The bottoms are covered with a layer, several feet thick, of a nitrous earth. It seems to be a nitrate of lime ; for to convert it into saltpetre, it is carried out and put into leech-tubs. Wood is then burned in the immediate vicinity. The potash so formed is dissolved in water, and poured upon the nitrous earth. By its action, the nitrous acid quits the calcarious earth, joins the potash, and escapes into the receiving-vessel below. The saltpetre so formed is then purified and crystallized for use ; while the spent material is carried back to the cavern for a new impregnation with the nitrous acid. Whence, in the name of science, does this acid proceed ?

* The next memorable event in connection with my subject is his mission, as minister plenipotentiary, to France in 1784. He had prepared the way for a welcome reception there, by an extensive acquaintance with the officers who commanded the fleet and army sent by our great and good ally, Louis XVI., to aid us during our revolutionary war, under Rochambeau and De Grasse ; by the circulation, in the French tongue, of his book, and by the general res-

pectability of character he had attained while there, he extended his knowledge of scientific men and things: he made tours and journeys of observation; he collected books of rare occurrence and of precious editions, even from the shops and fairs of Germany. I recollect well the minute and detailed history he had written of the grape, and of the several sorts of wine it afforded; and the whole nation knows how the destruction of the Congressional library at the Capitol by an incendiary enemy was repaired by the purchase of his rich and diversified collection. If his function in Europe had been confined to the accumulation of so much intellectual treasure, both the present and future generations ought to be thankful.

But an event was preparing in his own country which rendered it expedient for him to come home. The political association of the States, which bore them through the revolution, was found incapable of sustaining them with credit and effect afterward. In 1787, a convention of delegates from the States assembled in Philadelphia, and formed a new constitution for the nation. During the residue of that and the succeeding year, it was ratified by a sufficient number of the States to render it operative. The functionaries of this novel government assembled in New-York in 1789. It pleased the President of the United States to nominate Mr. Jefferson Secretary of State. In that capacity he was called upon to prepare a Report on Weights and Measures, pursuant to the powers vested in Congress for regulating the same. In this performance he recommended the pendulum as the instrument for finding the standard of Measure; a method which succeeding calculators and savans have not sanctioned. The astronomers and geometricians of France have preferred the mensuration of an arc of the meridian; the ten millionth of which they recommended for the purpose. Yet even this, after seven and more years of labour performed by some of the most scientific men that ever honoured human nature, has failed in a great degree to accomplish its object. Difficulties, hitherto insuperable, have stood in the way. In




1817 the Senate of the United States referred the subject to John Quincy Adams, then Secretary of State ; who, in 1821, made them a return highly indicative of his industry and research. Indeed, without comparing this exercise with any other performed by the same distinguished individual, I may observe, if he had written nothing else while he held that office, he would deserve to be quoted with respect and honour. After giving the history of the particulars which signalized the metrical system of France during their revolutionary period, Mr. Adams continues :—" the spectacle is at once so rare and so sublime, in which the genius, the science, the skill, and the power of great confederated nations are seen joining hand in hand in the true spirit of fraternal equality, arriving in concert at one destined stage of improvement in the condition of human kind ; that not to pause for a moment, were it even from occupations not essentially connected with it, to enjoy the contemplation of a scene so honourable to the character and capacities of our species, would argue a want of sensibility to appreciate its worth. This scene formed an epocha in the history of man. It was an example and an admonition to the legislators of every nation, and of all after times." (Page 69.) Adams, on this occasion, silently, as such things are usually and generally passed over, has shown himself worthy of the illustrious university (Harvard in Massachusetts) of which he was a learned and eloquent professor. After all the labour bestowed upon these researches, and the exalted hopes entertained from their accomplishment, he nevertheless proposes (p. 92) that " no present change whatever should be attempted in our existing weights and measures ; to let the standards remain precisely as they are ; and to confine the proceedings of Congress at this time to authorize the executive to open communications with the European nations where we have accredited ministers and agents, and to make such declaratory enactments and regulations as may secure a more perfect uniformity in the weights and measures throughout the Union." In page 46, there is a re-

spectful allusion to the Report made to the House of Representatives by his predecessor.

In tracing the eventful life of this distinguished citizen, I come now to mention his election to the Presidency of the American Philosophical Society, held at Philadelphia. Here he was the member chosen to fill the chair left vacant by the death of David Rittenhouse. He held the place until he voluntarily withdrew, and gave room for the elevation of Caspar Wistar. To preside over this association is, perhaps, as high an honour as can be conferred upon a scientific man in our country. It is the oldest of our institutions of that class, and has laboured with more diligence and effect than any other. In the series of Transactions, it has published many papers promotive of knowledge and creditable to the authors. Nor are the members weary or discouraged. Their labours continue; and in convenient progression, an additional volume of valuable matter is added to those which went before.

I now proceed to mention his memoir printed in the fourth volume of the Society's Transactions, No. xxx. page 246 and seq., on the discovery of certain bones of a quadruped of the clawed kind in the western parts of Virginia. The paper was read on the 10th March, 1797. This communication seems to have been made while he was Vice-President. In it he states various matters of a memorable kind. They may, perhaps, be best exhibited in the form of an abstract.

The excellent author mentions the saltpetre caverns in the country situated beyond (reckoning from the Atlantic region) the blue ridge of mountains. In one of these caves of Green Briar County, the labourers, at the depth of two or three feet, dug out some bones, the size and form of which bespoke an animal new to them. It is generally known that the substratum beyond the mountains is limestone, and that the natural excavations abound in saltpetre. From these caverns, some of which are nine miles in extent, this neutral salt is obtained in great quantities. They may be considered, as already said, the unexhaustible store-houses of



the article, for all future wars and contingences. The bones he procured from his friends, who collected them, consist of—
 1. a small fragment of the femur, or thigh-bone ; 2. a radius, perfect ; 3. a broken radius, whose two portions can nevertheless be adapted ; 4. Three claws and half a dozen other bones of the foot, with a few fragments. He proposes to call the creature, of whose skeleton these are portions, *Megalonyx* or the Great Claw ; a name so happily selected, that it has been adopted by the zoologists. The author endeavours to prove, by ingenious estimates and venatorial narrations, that the former owner belonged to the Lion-family, but was more than three times as large as the lion. Some of the adventures of the early settlers are told with so much spirit and taste, as, with all their seriousness, to impress the mind with the stories of bewitching fiction.

Subsequent enquiry by those who have classified animals according to their organization, has decided that the being to whom these relicks belonged was a member of the *Bradypus*, or Sloth family ; and that the race seems to be already extinct. It would be foreign to my purpose to institute a formal enquiry wherefore it happens that the Creator should destroy, or doom to destruction, any works of his hands. Every day indicates that individuals of a race expire ; while notwithstanding, the race itself, by the procreative and multiplying power, is perpetuated. In other cases, there is memorable reverse. The individuals of a species drop off until none survive. It is, as I should suppose, because in the judgment of the ALL-WISE, it ought to be so ; we ought to submit reverently to the decision. I feel singular satisfaction in stating to you, that through the active instrumentality of Professor Harlan, a member of this society, the American Philosophical Society at Philadelphia made a generous donation, worthy of being mentioned with honour, to the New-York Lyceum of the aforesaid peculiar articles. In connection with the subject, the mention is unavoidable of another extinct species of the *Bradypus*, called the *Magatherium* ; one specimen of which, as to bony structure, disinterred in Paraguay, is preserved in the King of Spain's

museum in Madrid. And the partial skeleton of another, found on Skiddaway Island, Georgia, having been reported to us, our associate William Cooper, Esq. has procured all the articles he could, and registered the facts in our annals ; and the bony relicks in our museum, together with some of the teeth, prove that the remains of this quadruped, heretofore only known by his fossil relicks found in the southern hemisphere, has also been an inhabitant of about an equal latitude in the northern. Mr. Hackley, late Consul of our United States in the capital of Spain, obligingly forwarded an elegant print of the skeleton from the bank of the river La Plata : so that, putting all the articles of intelligence together, our Cabinet contains good pieces of Megatherian and Megalonic relicks.

It is proper to observe that there is a particular description, with figures, of these bones, which had been deposited in the museum of the society, in the same volume, page 526 and seq. by an able anatomist, Dr. Caspar Wistar, the late Professor in the University of Pennsylvania. After full examination, he decided in a manner since deemed correct by Cuvier and the other recent zootomists, that the Great Claw of Virginia belonged to a creature different from that of Paraguay.

The next of his publications of a scientific character is intitled the Description of a Mould-board of the least resistance, (printed in the same volume, No. xxxviii. page 313 and seq.) and of the easiest and most certain construction, taken from a letter to Sir John Sinclair, President of the Board of Agriculture at London. It was read on the 4th May, 1798. Herein he describes in detail how this part of the plough may be constructed so as not only to raise, but to turn over the sward. He affirms that five years trial had convinced him that it answered in practice what it promised in theory. If elevating the sod was all, the wedge would do the business. But as the sod is to be turned over, one edge of the wedge is not to be raised at all ; while the other edge is to be raised until it passes the perpendicular, that the sod may fall by its own weight. And that this may be

done so as to give the smallest resistance, it must be made to rise gradually from the moment the sod is received. The Mould-board then, in this second office, operates as a transverse or rising wedge, the point of which sliding back horizontally on the ground, the other end continues rising till it passes the perpendicular. He gives precise directions how to form such a Mould-board, which, he says, may be made by the coarsest workman, after a process so exact, that its form shall never be varied a single hair's breadth. It is to be regretted that the several figures illustrating the method do not accompany the memoir. I remember well the wooden model he used to show at Washington. Considering the plough the most useful instrument invented by man, he was desirous of contributing his labours for its improvement, under a conviction that its perfection could not be deemed an idle speculation.

This is the place, in the order of events, to mention his proceedings under a Resolve of Congress approved on the 16th April 1800, relative to the copper mines (as they were then called) on the south side of Lake Superior. Mr. Jefferson was then Vice-President of the United States. The exaggerated accounts of vast beds of that metal, lying bare on the earth and beds of rivers, led to the adoption of this provision. It "authorized the President to employ an agent, who should be instructed to collect all material information concerning the copper mines on the south side of Lake Superior, and to ascertain whether the Indian title to such lands as might be required for the use of the United States, be yet subsisting; and if so, the terms on which the same can be extinguished: and that the said agent be instructed to make report to the President in such time, as the information he may collect be laid before Congress at their next session." The person appointed for this service drew a sum from the Treasury as an outfit, and he delayed the expedition too long to present the report within the specified time. Meanwhile Mr. Jefferson himself became President; and being satisfied the mission was idle, and, if needful, in improper hands; directed

a suspension of the proceedings, and an account to the Treasury for the money. (See Note B.)

I come now to an event which ranks among the most memorable of his administration—the acquisition of Louisiana. The western and southern boundaries of our national territory had always been matter of anxiety and doubt. When Mr. Jay negotiated the treaty at Madrid, the Spaniards claimed the greater part of the country situated to the westward of the Alleghany Mountains. I have seen a map, on which was a painted line to that effect, made by the Duke D'Aranda's own hand. Our able minister, however, succeeded in settling the middle of the river Mississippi as the boundary, from its source to the 31st degree of latitude; but beyond that, Spain possessed the whole jurisdiction and navigation of the stream to its junction with the gulf. This power was always a subject of uneasiness to our people, and occasionally of discontent. The produce of the western states could not reach the ocean, without the permission of a foreign government. Indeed, it became necessary to solicit a place of deposit there; and likewise to establish a hospital for sick boatmen and adventurers. The order of an intendant had interrupted this arrangement, and thrown our citizens inhabiting the trans-alleghean lands into serious alarm. With the progress of population and increase of labour, the difficulty appeared to invite force, if the impediment could not be removed by milder means.

A method of attaining a result so desirable occurred during the year 1803. France, under the Buonapartean rule, was now in great want of money; and it was contrived to raise fifteen millions of dollars by the acquisition and sale of Louisiana. On this occasion, it may be proper to mention a few particulars relative to title and extent. That vast region, comprehending the Mobile settlements, had been colonized by the French. The grants to Messrs. Crozat, Law, and others, having been relinquished in the year 1731, the French monarchy ceded so much of the province as lies beyond the Iberville river, including the Island New Orleans, by a secret treaty in 1762, to Spain;

and by the general treaty of peace which followed the Canadian war in 1763, the whole territory of France and Spain, eastward of the middle of the Mississippi to the Iberville, thence through the middle of that river and the Lakes Maurepas and Ponto Chartrain to the sea, was ceded to Great Britain. Under the former possession by France, the eastern limit of Louisiana was the river Perdido. This, under the British sovereignty, was, with some territory situated to the eastward, denominated West Florida. Spain, during the war of our revolution, conquered this and East Florida too from Great Britain, and acquired the right to them both by the treaty of 1783. Afterwards, to wit, in 1800, the Catholic King retroceded to France the whole of Louisiana, according to its ancient and proper limits. This having been confirmed by the treaty of Madrid in 1801, the French Government sold the entire province, in its full extent, as heretofore possessed by France and Spain, for the aforesaid sum to our United States. On this occasion it was the good fortune of Mr. Jefferson to have Robert R. Livingston, (see Note C,) as his Minister Plenipotentiary at the Court of France. By vigilance and adroitness in seizing the proper opportunity, and particularly in urging the claims of our merchants upon the French Government for spoliation on their property to the amount of three millions and seven hundred and fifty thousand dollars, he at length closed the bargain.

Lawful possession having been acquired on the 20th December 1803, Mr. Jefferson immediately exerted himself to acquire as much information as he could concerning a country of such unknown condition and extent; and he has thereby placed himself before the world as one of the most substantial promoters of statistical, natural, and physical science.

He began this work of inquiry, by writing letters to sensible persons, requesting them to collect and transmit to the executive the intelligence he sought. These applications brought forward answers to a large amount. As the information they contained was intended for the nation, through

their representatives in Congress, and the original communications were too rough and voluminous for publication, totidem verbis, the whole mass of documents was put into the hands of a competent person for the purpose of being reduced to a condensed abstract or compendium. This came forth in print under the title of "An Account of Louisiana ; " being an abstract of documents in the offices of the departments of state and the treasury," &c. With other matters, this very instructive work treats of boundaries, divisions, general description of Upper Louisiana, estimate of the tribes and numbers of the native Indians, the cultivation of sugar, and the low state of learning.

Among the alleged facts adduced on this occasion, was the story of a *Salt Mountain* about one thousand miles up the Missouri, and not far from its bank. This was a subject of much wonder and animadversion at the time. Some persons went so far as to deny its existence. It is certain, nevertheless, the President believed it ; for he exhibited, and even distributed, specimens of the article said to have been brought from the mountain. His correspondents deceived him in this particular. There is no mountain there ; far less a mountain of salt. But salt is so abundant, as in some places to distress travellers for want of fresh water to drink. The real account, as far as I could gather from the Osages, the French settlers, hunters and others, is this :—Between the northern branches of the river Arkansa is an extensive plain, called the Salt Prairie. This is several leagues in diameter. The salt springs are constantly oozing out their contents. In the dry season, part of the water evaporates, and the salt concretes on the surface like an incrustation or a hoar-frost. Marine plants grow there. The place is frequented by innumerable bisons (or buffaloes) in herds. A project has been started for carrying oysters to the Arkansa, for propagation. There is salt without end ; only it does not seem to be, as in some other parts of the globe, heaped into mountains of Sal Gem. Captain Lewis himself assured me that the story of the salt mountain was incorrect.

Pending these negotiations, the foresight of the President (of the United States) had procured the enactment of a statute, approved Feb. 28, 1803, denominated "An Act for extending the external commerce of the United States." Under the moderate appropriation of two thousand five hundred dollars, provision was made for a grand expedition. It will be remembered, to the honour of Mr. Jefferson and the Congress, that this step, with all its boldness, was authorized before the treaty for the country was adopted.

Fully sensible of the importance attached to an acquaintance with our territory, he had selected two gentlemen, holding the commission of captains in the army, to conduct the enterprize. The name of one was Lewis, and the other Clarke; the former distinguished for his astronomical and other scientific attainments, and the latter for his military ability to command, and for that professional tact, which on an emergency demanding something to be done in an instant, enables the agent to decide right. The preparation was begun immediately. The persons employed were, to lessen expence and to ensure success, military men of the army. They returned during 1806. Their instructions were to penetrate as far as the Pacific or great Western Ocean.

During the expedition, communications relative to the condition and productions of the country were, on all practicable occasions, forwarded to the President. Where that mode of intercourse was not possible, the articles collected were reserved to be brought home by the adventurers in person. They atchieved so much, that I told Lewis one day shortly after his return to Washington, when he dined with me, I looked upon him almost as a man arrived from another planet. Among other things a better map of the country was prepared than ever had been compiled before. Until then, the best delineation known, probably, was that by the Indians, on the tawed hide of a huge bison, forwarded to the Government by General Wilkinson.

There was a considerable lapse of time before their journal appeared. The manuscript required revision and amendment. The specimens in natural history stood in need of description and classification. Drawings were in some instances wanted. All these operations required time. Meanwhile a private soldier of the party, named Patrick Gass, published at Pittsburgh an account of the adventure in a cheap and brief form; which, though written by an humble man, served to gratify in a considerable degree publick curiosity, and to disclose a number of interesting facts. It was several years before the authentic narrative came forth: but then it was under the sanction of the noble projector himself. It would be foreign to the object of my appointment to lay before you even an epitome of its contents; but I may disclose to you, that Lewis thought the signal advantage to be ultimately derived from their geographical and zoological discoveries, would be the establishment of a trading post at the mouth of the Columbia River, for expediting the commerce in furs to China.

In his message to Congress of Dec. 2, 1806, Mr. Jefferson observes thus:—"The expedition of Messrs. Lewis and Clarke for exploring the river Missouri, and the best communication from that to the Pacific Ocean, has had all the success which could have been expected. They have traced the Missouri nearly to its source, descended the Columbia to the Pacific Ocean, ascertained the geography of that interesting communication across our continent, learned the character of the country, of its commerce and inhabitants; and the whole party deserve well of their country."


The party had started, as I said, in 1803, and returned in 1806. Lewis was rewarded by being made Governor of Upper Louisiana territory, now the State of Missouri. An attempt was also made to compensate Clarke by promoting him from the rank of Captain to that of Colonel; but the senate negatived the President's nomination. This gallant officer then went to his native State, Kentucky, where he was requested by Mr. Jefferson to cause the ground near

the Salines, called the Bigbone Licks, to be dug up; and the fossil relics to be forwarded for him to Washington city. This was so faithfully executed during 1807, that a consignment which arrived in the Potomac early in March 1808, by the way of New-Orleans, was charged with expences for transportation, &c. to the amount of three hundred dollars. The collection was probably the most extensive that was ever seen together at one display. As they lay on the floor of one of the great saloons in the President's house, the present narrator surveyed them in company with the owner; and methodized them under the following heads: 1. Many dozens of the smaller bones, apparently of the mastodon, which seem to have been parts of the feet, and might serve to complete the whole compages belonging to those parts, by enabling anatomists and zoologists to complete the osseous remains thereabout; 2. Bones of the legs; 3. Bones of the head and upper jaw; 4. Two kinds of teeth, very large and detached from the sockets—some of the mastodon and others of the elephant; 5. Fragments of the lower jaw, with grinders in their proper place; 6. An enormous tusk, much larger than that of the elephant: though decayed at both extremities, it was ivory; 7. Several smaller tusks, the least of which was three feet long; they possessed great specific gravity, were decayed and broken at the ends, and disposed to crumble and drop to pieces by exposure to the air; 8. Ribs of the shape common to mastodon skeletons; 9. Skulls and clints of bisons, disinterred with the preceding; 10. Very large vertebrae. (See Note D.) It was understood at the time, that he arranged these fossil bones into three parcels; one of which he kept himself, one he sent to Philadelphia, and the other to Paris. The Count De la Ceppe's letter, (dated Sept. 1808), on receiving information of the gift to the national institute of France, is now before me. It attaches peculiar value to the articles, and states that they should be deposited in the royal museum of natural history, for the most effectual gratification of public curiosity. The donation evidently

paved the way for his election to the exalted situation of a foreign member of the national institute.

With a determination to acquire further knowledge of the new territory annexed to the United States, Mr. Jefferson, in August 1805, sent Lieutenant, (afterwards General) Pike, with a military escort, to trace the Mississippi from St. Louis to its source. He visited Leech Lake and Red Cedar Lake, two of the high sources of that river. The latter of these lakes is not more than two leagues distant from some of the waters running into Hudson's bay. Its latitude was $47^{\circ} 42' 40''$ N. ; and the longitude $95^{\circ} 8'$ W. from Greenwich. The time employed in this service was not quite nine months. The report made to the Government was accompanied with a map.

This intelligent and enterprising officer had succeeded so well, that in 1806 he was sent upon another mission for the purpose of making discoveries. He started from St. Louis, and travelled to the Osage towns and the Kanza villages as a peace-maker, and passed the country to the Arkansa, where the party divided ; one section under Lieut. Wilkinson descending toward the Mississippi, and the other un-Lieut. Pike himself ascending toward the source. After visiting the river Platte and returning to the Arkansa, he made an attempt to find the Red River ; but labouring under a mistake in regard to its true source, he went so far to the westward as to miss it altogether ; and to his great surprise, found himself within the Spanish settlements near the banks of the Bravo or Rio del Norte, where he was made a prisoner and called a spy ! The general idea he gave of the vast regions he traversed is that of the most dismal sterility. Their aspect uninviting and inhospitable in the extreme. For many a day's journey in succession there is not a tree, and scarcely a shrub, to relieve the dreariness of the scene. Waste and sandy deserts occupy the principal spaces between the great rivers. Those extensive and level regions are in many places so impregnated with salt, that the streams are sometimes too briny to be drunk : and the water even capable of being evaporated for the purpose of



obtaining that article. The wilderness of Louisiana has thus a near resemblance to the deserts of Arabia, the plains of Tatar, and Zaara of Numidia ; and by its savageness and expanse, it will be capable of forming a wide and lasting barrier between our United States and their neighbours to the west and south. This nakedness of the country does not appear to be the consequence of fires in the woods changing the forests to savannas, but of the natural sterility of the soil ; owing, in many spots, to its impregnation with salt, producing a coarse and scattered grass that serves to feed the herds of bisons roaming over these dreary tracts. From the scarcity of wood, it was sometimes necessary to collect the dung of these animals for fuel. There is great scarcity of dew and rain. Between the Kanza and the Bravo, the Indians wage exterminating wars ; and Lieut. Pike informed me, so shy and wary were the inhabitants, that for a distance of between 700 and 800 miles between the two rivers, though he saw a few times tracks and vestiges of men, he did not behold a human creature all the way, but his own people.

Intent upon exploring the country, an expedition up the Red River was confided to Mr. Freeman ; which, though conducted with zeal and prudence meriting entire approbation, was not equally successful. For, after proceeding up it for about six hundred miles, nearly as far as the French settlements had extended, the geographers were obliged to return without completing their work.

I mention another instance of the unceasing efforts he made to ascertain the condition and worth of the purchase. In October, 1804, Messrs. Dunbar and Hunter proceeded up the Washita or Black River. After visiting the station called Fort Miro in $30^{\circ} 30'$, and various other places, amidst many difficulties among shoals and rapids, they at length reached the hot springs situated toward the source of the river, in lat. $34^{\circ} 31'$. Their journal was illustrated by a map. (See Note E.)

The lead mines, situated west of the Mississippi, are probably the most abundant on the face of the globe. That

metal is so very important in its relation to the arts, and especially to the operations of war, that it is particularly desirable a nation should possess a domestic and abundant supply of it. Mr. Jefferson therefore procured in 1804, an account of their names and localities from Moses Austin, Esq. which he laid before Congress in a printed form. The subject has since been treated more at large by Mr. Schoolcraft. It is memorable for having given rise to the notorious stock-jobbing project of Mr. Law, a little more than a century ago. The ore is a galena, or a combination of the metal with sulphur. Great quantities of lead are extracted for supplying the western States, and for the consumption of the Atlantic region, by exportation through New Orleans. It is affirmed that the working of this mineral has wrought a remarkable change in the manners of the Indians around the Prairie des Chiens. As the wild animals became scarce, these aboriginal tribes grew poor and necessitous. But they at length discovered that lead would purchase for them at the factories, blankets, vermilion, and other things, quite as well as furs and skins. At first they carried the crude ore to the traders; but these men, to avoid the trouble and expence of melting out the metal, refused after a while, to receive the galena in payment, and thereby compelled the natives to reduce it. And thus, by a sudden and peculiar transition, hunters were changed to metallurgists.

He deserves honourable notice for recommending to Congress the establishment of a National University. This measure, however, though urged in strong terms, never met the approbation of the national legislature. Some members entertained doubts of its constitutionality; while others thought that seminaries of learning ought generally to be patronized by the States respectively. Such was the dislike of the project, that, on one occasion, during a subsequent administration, when I acted as chairman of a select committee on the paragraph of the executive message relative to a national university, there were only two members out of seven in its favour, and the chairman was made to perform

the hard service of preparing a report unfavourable to the object, and adverse to his own opinion. All that has been done, is the incorporation of a college, under another title, at Washington city.

"Education," he observes in his message of December 2, 1806, "is here placed among the articles of public care ; not that it would be proposed to take its ordinary branches out of the hands of private enterprise, which manage so much better all the concerns to which it is equal ; but a public institution can alone supply those sciences, which, though rarely called for, are yet necessary to complete the circle, all the parts of which contribute to the improvement of the country, and some of them to its preservation. The subject is now proposed for the consideration of Congress ; because, if approved, by the time the State legislatures shall have deliberated on this extension of the federal trusts, and the laws shall be passed and other arrangements made for their execution, the necessary funds will be on hand and without employment. I suppose an amendment to the constitution, by consent of the States, necessary ; because the objects now recommended (meaning roads, rivers, canals, &c.) are not among those enumerated in the constitution, and to which it permits the public monies to be applied. The present consideration of a national establishment for education particularly, is rendered proper by this circumstance also, that if Congress, approving the proposition, shall think it more eligible to found it on a donation of lands, they have it now in their power to endow it with those which will be among the earliest to produce the necessary income. This foundation would have the advantage of being independent on war, which may suspend other improvements, by requiring for its own purposes the resources destined for them."

Though he held just ideas of the animal economy, and understood as well as any body the art of living, yet he does not appear to have laboured much in the cause of medicine. Yet there are two occasions on which he came forward ;

one was, on the substitution of the cow-pock for the Various disease ; when it was said, and I believed it, that so zealous was he in its favour, that he vaccinated numbers with his own hand. The other was, notice of the yellow fever, in one of his messages, as a malady confined to tide-waters, and not originating or spreading beyond their reach or influence. The sentiment is in unison with the views of those persons who believe it invariably a disease of foreign parts, and of introduction from the sea-ports of the south. It coincides with the sanitary statutes and regulations of the State legislatures, who have generally and substantially enacted the provisions of the Marseilles' code, for guarding Christendom against the plague of the Mahometans. The same tide-water principle has been urged very forcibly in a late publication by the Chevalier Beauregard of Paris, who affirms that the yellow fever never spreads beyond four or five leagues from the oceanic swell.

It may be proper to mention here an anecdote of the wariness with which he sometimes credited intelligence. It is well known that in December 1807, there was a descent of stones from the atmosphere to the earth in the towns of Fairfield, Weston, and Huntington, Connecticut, immediately consequent upon the explosion of a fiery meteor. My correspondents, Holley and Brunson, who went early on a tour of exploration, wrote me an account of their adventure, and sent me by the mail a specimen of the aërolite. I was then at Washington city attending the session of Congress, and received the intelligence, with the article, a day sooner than any person ; even before the representatives of Connecticut knew any thing about the occurrence. The news excited great sensation, particularly as the whim was then prevalent that these productions were ejected from the moon by volcanic fire. The curiosity of a senator who lodged at the same house with myself was worked to a high pitch. He had accepted an invitation to dine with the President that day ; and he induced me, by earnest solicitation, to lend him the letter and its accompaniment for communication to the philosopher of Montecello. He returned from

the party indignant at the reception of his story. He said it produced the most perfect sang froid, or provoked a sort of scornful indifference: and that J. said he could answer it in five words. The gentleman desirous of knowing what they were, was told they were these—*it is all a lie*. To my friend then I replied, they had so imposed upon him in relation to the mountain of salt, that he seemed to be resolutely on his guard against a trick by a shower of stones.

It is now time to mention the discussion that took place in February 1804, relative to the extent and boundaries of Louisiana. It had been the lot of the person who now addresses you to act in the capacity of chairman to a select committee appointed by the House of Representatives to enquire into the expediency of enabling the President of the United States to cause certain remote and unknown parts of Louisiana to be explored. During the performance of that service he held official conference with the chief executive about the business. In determining the limits, the chairman observed, that beside the tracts on the east side of the Mississippi, it included all the regions lying to the westward thereof, to the dividing ridge called the Shining or Rocky Mountains; and beyond that chain quite to the Pacific Ocean, occupying all the space between the territories claimed by Great Britain on one side and by Spain on the other. To this proposition I objected that the claim was extravagant, and the vast tracts lying on the eastern slope of those mountains, as watered by the streams falling into the Mississippi, with as much coast as we could procure along the gulf, was, in all conscience, enough. After some further conversation, he concluded that if I chose to report according to my own plan, he saw no actual harm in it; for in the present case, as in a declaration at law, under a large demand, any smaller amount might be recovered. I reported so; the money was appropriated, the explorations went on, and public opinion has ever since sanctioned the doctrine—that the purchase rightfully reaches quite through to the ocean of the west. (See Note F.)

It here becomes me to notice the project begun under

reign of Washington, and continued beyond that of Jefferson, for civilizing the Indians. There were two methods of proceeding toward these people ; one warlike and exterminating ; the other pacific and civilizing. Both had their advocates. After mature deliberation, and after the defeats of Harmer and St. Clair, it was resolved to make an overture of a friendly nature ; first, to the numerous tribes of the Cherokees, and afterward to the more powerful bands of the Creeks. Benjamin Hawkins, a senator in Congress from North Carolina, consented to undertake the bold and dubious mission. Among the former, the experiment has so far succeeded that they hold property in severalty, cultivate land, raise cotton and manufacture it into cloths, own cattle, horses, and negroe slaves, keep ferries, support schools for reading and writing, count monied currency, and have stationary settlements. The latter too had made admirable advances, but their promising progress toward the domestic and useful arts was sadly interrupted by the death of Colonel Hawkins, by feuds and quarrels among themselves, and by the severe and desolating war in which they and their bad advisers implicated themselves with our United States. The narrative of this distinguished citizen, who possessed singular talent and zeal for the work, ought to be known to every philanthropist. (See Note G.)

The latter years of his life were industriously devoted to the furtherance of literature and science in his native State. Measures had been adopted during the latter part of the 17th century to establish a college in the colony ; and the English sovereigns, William and Mary, distinguish to this day the august personages who were honoured as patrons. But its location, however judicious it might have been considered at the time, was by no means conducive to its ultimate prosperity. Williamsburgh was, in the course of events, forced to yield its seat of government to Richmond, as more salubrious and central. The same reasons which took away the representatives of the people from this spot as a place for legislative deliberation, withheld many of the most wealthy planters from sending their sons to it as a semina-

ry of education. An opinion was rationally formed by the citizens who inhabited the lands above the flow of the estuaries and beyond the rapids of the rivers, that the high country was preferable to the low, for a temple of the Muses. Virginia had pride and feeling enough to wish for a university of its own. Still, for a century and more, there were insuperable difficulties in the way. Williamsburgh, by degrees, assumed the appearance of a deserted village, or decayed borough; surrounded by lands exhausted by tillage, depreciated by governmental desertion, oppressed by a slave population, and remote from the route of travelling, the resort of fashion, and centre of business: the property of the college, indeed, remained; but what could that avail without students? It had been the custom of parents to send a portion of their sons to Europe for instruction, and other portions to institutions in the neighbouring States. In fine, the termination of Mr. Jefferson's political career happened when the crisis of literary depression had arrived. He became satisfied it was high time to make an effort honourable to himself, useful to the commonwealth, and beneficial to families, in a healthy and accessible situation, where the male youth might be trained to all the studies preparatory to the civic, professional, official and military duties of life. He may, I believe, without disparaging the labours of any other gentleman, be pronounced the "auctor, promotor, et perfector Operis;" the man without whom, the undertaking would never have been begun, or, if commenced, would have incurred a failure. The site having been fixed near his own residence, he gave the plan and the construction an extraordinary space of his personal superintendence. His influence and example seem to have had a powerful effect upon private and public feeling; in-somuch that requisite funds were procured and applied; and the ancient dominion, as Virginia has been quaintly denominated, now contains within her own precincts, a well endowed corporation, with the title and authority of a university.

I believe I have noticed, however briefly, the principal

events of his life that have a bearing upon the physical and natural sciences. Yet other matters remain to be mentioned.

He seems to have been blessed with a good organization that bore him fourteen years beyond the threescore and ten allotted to man, without memorable disability of any kind. Even the penmanship of his latter days bears evidence of a clear eye, a steady hand, and a discriminating mind. No mortal knows the term of his existence here. It is a high felicity for such as are doomed to protracted vitality, to escape the pain and languor of disease; for, without at least a moderate degree of health, I can discover very little to enjoy in this world.

Such a good frame enabled its possessor to be industrious, and at the same time rendered industry operative and effectual. He probably lost fewer hours and minutes than most men. His capacity embraced so many objects, that in city or country, alone or in company, at home or abroad, there was always something upon which it might be exercised. There was neither need nor room for idleness; for in the constant succession of objects, torpor, lassitude, and ennui had no admittance. Perhaps the adage, *γηρασὶ πολλὰ μαθήσων*—I grow old learning many things, was seldom better illustrated.

Much, therefore, of his writing was done by his own pen. It could scarcely be supposed by those who did not know him, how much paper he covered with manuscript. Even messages to Congress and communications to the Senate, that might have been well enough done by a secretary, often bore the autograph of the President.

From this habit of business, though always occupied, he was seldom or never in a hurry. He was easy of approach; and rarely secluded himself from the visits of those who wished to see him. He kept his work so much a-head, that he could patiently hear communications at full length, and either answer them, or put them in a train for consideration.

His topics of knowledge were so ample and various that he

could converse agreeably on almost any subject. On those of which he had acquired the mastery, it was instructive to listen to him ; where his attainments were less, he was still a pleasing colloquist ; and if he sought information, no one knew better the art of listening and inquiring than he. His faculty of recollection was very ready ; and that which he did not instantly call to mind he knew where to go and find. I have known one of his political adversaries, during the rage of the bitterness and violence which prevailed during his administration, enter into his presence with a sentiment formed from the Opposition gazettes, as if he was going to see a fury or a monster, and return from the interview undeceived and disappointed, praising him as a well-bred and well-informed gentleman.

It can now be comprehended in some measure how he attained his happy power of epistolary composition ; I mean particularly the art or knack, if I may so call it, of answering written communications. He attained a proficiency in this, which perhaps was never equalled, certainly not surpassed by any one. He was addressed by persons who were strangers to him, as well as by those whom he knew, on an almost endless diversity of subjects ; and where the manner was respectful he generally took some notice of the application. In these exercises, which have been extensively spread before the public, he has given numberless proofs of his admirable, I may almost say, inimitable powers of language and expression. I know no compositions in that way which surpass his. He had the *savoir dire, et le savoir faire* ; or, in other words, the true mode of explanation and exhibition of himself to folks, in the most becoming and winning mode. (See Note H.)

Among the subjects of conversation, I take this opportunity of mentioning one which is rather of an uncommon nature. It relates to anonymous, abusive, and threatening letters. In the course of my public life I had been assailed repeatedly by such missiles. I told this to Mr. Jefferson, and asked if he had not experienced the like. He had received a great number of such epistles ; some filled with ma-

ledictions, some replete with denunciations, and others menacing even murder and assassination. I told him my proceeding on reading such communications was to look them up or to burn them, and to say nothing to any person whatever about the matter. He observed, that it was the right course ; for that such writers were cowards and not the objects of dread or apprehension ; and that, by keeping the secret inviolable, if any thing was ever said on the subject, it must come from the author or from some one to whom the author had told it.

He was exceedingly displeased with the increase of the public debt during the reign of the President who preceded him. He thought the payment of that and the whole amount incurred by the revolutionary war, ought to be made in the shortest possible time. For this every effort should be used. Economy in every department was not only recommended, but actually practised. The army was reduced to an inconsiderable body—the judiciary was retrenched—the public ships were mostly dismantled and laid up in ordinary—and even the military academy at West Point, the school for educating artillerists and engineers, felt, from the diminution of appropriations, decreased ability to impart instruction ; and it was not until the next administration, that, on the earnest and active solicitation of the director, Col. Jonathan Williams, that it was renewed and new-modelled by a special act of Congress. But it was the ruling notion of the day that an economical system of peace should be preserved, and that an embargo and even a non-intercourse should be adopted, rather than the costly alternative of war.

His temper was prone at times to mirth and recreative pleasantry. His fondness for antiquarian investigation and literary composition would have been gratified by the following legend alleged to have been derived from the Greek, but which came to hand too late to be transmitted to him. It is now offered.

PYTHAGORAS & SAPPHO:

OR,

THE DIAMOND AND THE ROSE.

One social day, 'tis well expressed,
Pythagoras the Seer
 This question artfully addressed
 To beauteous *Sappho's* ear :

When hence thou shalt be forced to flee
 By transmigration's power,
 Wouldst thou, dear friend, prefer to be
 A JEWEL or a FLOWER?

The Lesbian maid these words returned
 To greet the Samian sage :—
 " For gems my passion never burned ;
 " And flowers my choice engage.

" The glittering stones, though rich and rare,
 " No animation know ;
 " While vegetables, fine and fair,
 " With vital action glow.

" The senseless gem no pleasure moves
 " Displayed in fashion's use :
 " While flowers enjoy their gentle loves,
 " And progeny produce.

" Then when I shall surmount," she cried;
 " Rude dissolution's storm ;
 " Oh, let me not be petrified,
 " But wear a living form.

" Those matchless rays the *Diamond* shows
 " With promptness I decline ;
 " That I may dwell within the *Rose*,
 " And make its blossoms mine."

But this effusion is now nothing to him. He has undergone that change which in time will await us all. He has passed to another state of being. What it exactly is, no

mortal seems to understand. It is a subject that can never be contemplated without seriousness. To pass from strength to impotence, from life to insensibility, from health to putrefaction, from the mansion to the grave; to quit wealth, titles, and honours; to close the concerns of this anxious world; to bid farewell to them forever; to pass, perhaps, beyond the tomb to some region we know not where, and to be employed in some manner we know not how; are matters which engage and embarrass the inquiring mind. Yet, puzzling as the theme of our exit is, it is not more so than that of our entrance upon the mundane theatre. Who can explain more satisfactorily, how clustered atoms assumed vitality, than how, after a certain growth and development, they laid it aside and became unvital again? One is as natural, and, at the same time, as incomprehensible as the other. We tug at the solution in vain. We must wait for regular initiation into these higher degrees of knowledge; we must be patient until the whole scenery, of which we behold here but a few sections, shall, in regular order and due succession, be displayed before us.

In estimating the character of our Jefferson, he may be ranked as a highly favoured person. He lived in eventful times. He saw the colonies, provinces, and plantations of his own country (as they were called) rise to independent States. He viewed the stupendous struggle, termed the French revolution, from its commencement prior to the overthrow of the Bourbons, and under the Buonapartean dynasty, to the restoration of the Bourbons again. He beheld the settlements made in America under the crown of Spain abjure the royal despotism, and present themselves to an admiring universe as a brotherhood of nations. He witnessed the unexampled march of science and art evincing the mighty and increasing power of mind over matter. And, above all, he surveyed for half a century the advance and prosperity of the people to whose welfare he was particularly devoted, notwithstanding his extended benevolence toward the entire family of man.

Considering how much he has achieved for the public

and for those whom he found it needful to patronize or assist, he may be ranked among the persons who are, as far as convenient or practicable, the executors of their own wills. I have often meditated with approbation on the conduct, among others, of Mr. Phillips of Boston, Col. Rutgers of New-York, General Van Rensselaer of Albany, and Admiral Coffin in Nantucket, in performing generous and munificent actions during the continuance of their respective lives, instead of leaving them to be done by the trustees or agents named in their testaments. There is so much prudence and propriety in the proceeding, that it is a pity the practice was not more frequent. Among other considerations, this one is prominent—that a man is sure to have the good of it before he ends his mortal career. Upon the supposition that there is no hereafter, such a man is the gainer by all the good emotions he thus secures in the present life: upon the calculation that there is a future state, it is probable, from all that has been revealed on the subject, that the condition of the resurgent will be infinitely remote from sublunary cares, or too much engaged to bestow a look or even a thought upon the small concerns of this world. Upon either way of reasoning, the argument is conclusive in favour of procuring for ourselves, while here, as much solace as possible by the performance of good deeds. Under these or the like feelings, Mr. Jefferson appears to have contemplated his end with a composure worthy of those intrepid travellers toward the tomb, Horatio Gates, Joseph Priestley, and Lindley Murray. (See Appendix, Notes H, I, & J.)

In fine, if virtuous conduct gives cause for a hope, or more, lays ground for an expectation that heavenly bliss will be its consequence or reward, let us indulge the sentiment, fanciful as some may think it, that the immaterial spirit, quitting its connection with the body, not weak and clumsy like the chick disclosed by the egg, but perfect and active as the butterfly bursting its chrysalis, shall wing its course through tracts of sustaining and elemental ether to the Paradise of God, and then be nourished, for a duration without end, by the bread and the water of life.

APPENDIX.

(NOTE A.)

The altitude of Ascutney Mountain in Vermont, and Moose-Hillock in New-Hampshire, ascertained barometrically, by Alden Partridge, Esq. Capt. of Engineers stationed at Governors-Island. Sept. 24th. 1817, and addressed to Sam. L. Mitchill.

Dear Sir,

I take the liberty to transmit on the opposite page, several altitudes which I calculated when absent during vacation in the month of August last. Ascutney is a beautiful insulated, conical mountain, situated in the State of Vermont, in the towns of Windsor and Weathersfield—the summit about five miles southwest from the village of Windsor, and about the same distance west from Connecticut river. Moose-Hillock is the most elevated peak of a long range of mountains, which commences about three miles from New-Haven, in the State of Connecticut, at a rocky precipice called East-rock. From this place the range takes a northeasterly direction, crossing Connecticut river, below North-Hampton in the State of Massachusetts, thence taking a more northerly direction, it passes into the State of New-Hampshire, forming for a considerable distance the height of land, between Connecticut river on the west, and Merrimack river on the east. This range, I believe, is joined, previous to crossing the New-Hampshire boundary, by another range commencing near Lyme in the State of Connecticut, and called the Lyme range of mountains, but which does not attain any considerable elevation. The celebrated White Mountains are a spur from this range, branching off to the north-east. Moose-Hillock is situated about forty-five miles, a little to the east of north, from Dartmouth College, and about fifteen miles east from the village of Haverhill, which adjoins Connecticut river. It is so called in consequence of formerly having been much frequented by Moose. The rocks, and also the fallen trees on the sides of the mountains, are covered with a thick bed of moss. Hard timber, such as Beech, Maple, and Birch, intermixed with a few Evergreens, grow around the foot of the mountains, but as we ascend, the Evergreens, Hemlock, Spruce, and Fir, wholly prevail; these, as we approach the summit, dwindle into mere shrubs, about three feet in height. Their branches are so interlocked that it is almost impossible to get through them; the summit of the north peak was burned over a few years ago, and is now entirely bald; a mere mass of bare granite rocks. A silver mine is reported to have been discovered many years ago by some hunters, on the side of the mountain. The position of this re-

ported mine, however, is not now known, though much vain search has been made to ascertain it.

In haste, with the greatest respect,
yours, sincerely,

A. PARTRIDGE.

HON. SAM. L. MITCHILL.

	<i>Feet.</i>
Altitude of Ascutney Mountain above the Sea,	3320
Altitude of the same, above Connecticut river at Windsor Bridge,	2903
Altitude of the same, above the house of Mr. Giles Gills, near the foot of the mountain,	2595
Elevation of Connecticut river, at Windsor Bridge above tide water,	417
Altitude of the south peak of the Moose-Hillock above the Sea,	4556
Altitude of the same, above the house of Mr. Eastmans, in the town of Coventry near the foot of the mountain,	3246
Altitude of the same, above Connecticut river at Orford Bridge,	4832
Altitude of the same, above Merrill's tavern, in the town of Warren, near Baker's river,	3816
Altitude of Connecticut river at Orford Bridge, above tide water,	504
Altitude of Fairlee Mountain, near the Meeting-House in Fairlee, above Connecticut river, at Orford Bridge,	547
Altitude of the same above the Sea,	1051

Note. The north peak of Moose-Hillock is rather higher than the south peak. At the time I was on the south peak the weather was so extremely thick and inclement as to prevent my passing to the north peak. From my own observations, however, and from the best information I could obtain, I think the difference between the two peaks does not exceed one hundred feet. I presume, therefore, that four thousand six hundred and thirty-six feet may be taken for the altitude of the north peak, without essential error; this is, undoubtedly, the highest mountain (except the White Mountains) in the northern States, if not on this side the Mississippi. The prospect from the top of Ascutney is very fine. I have witnessed more extensive ones, but never a more beautiful one; the foregoing altitudes were calculated from barometrical, and thermometrical observations in the month of August, 1817.

A. PARTRIDGE, Capt. of Eng.

Summary of all the memorable Eminences within View of Hudson River, arranged in the Order in which they present themselves to an Observer entering the Bay of New-York at Sandy Hook, and passing by Water to Albany.

Altitude of Mount Mitchill, the highest of the Neversink,	282
Do. of Tompkins' Hill, on Staten-Island,	307
Do. of Hempstead Hill, on Long-Island,	319

Altitude of the Craggy Cliff, near Weehawk Ferry,	175
Do. of Fort Lee,	311
Do. of Fort Constitution, near Fort Lee,	301
Do. of Lydecker's Bluff, a little below Spiten Devil,	378
Do. of the Bluff opposite Spiten Devil,	407
Do. of the Bluff a little above Spiten Devil,	479
Do. of Bompey's Hook, two miles above Closter Dock,	517
Do. of the high Bluff north of Bompey's Hook,	549
Do. of Closter Mountain, a little south of the territorial line between New-York and New-Jersey, at lat. 41.	539
Do. of the South Peak of the Hook Mountain, immediately north of Nyack,	668
Do. of the North Peak of the same,	640
Do. of the South Peak of the high Bluff, near Haverstraw,	699
Do. of the North Peak of the same,	852
Do. of the Torn Mountain, above Pierson's Manufactory,	768
Do. of the same above tide-water,	1087
Do. of Pierson's above tide-water,	299
Do. of Fort Washington, on York-Island,	238
Do. of Fort Tryon, a little north of Fort Washington,	229

Highlands between Peekskill and Newburgh.

Altitude of Antony's Nose, on the east side of the river,	935
Do. of the Sugar Loaf, on the east side,	866
Do. of Bare Mountain, on the west side,	1350
Do. of Fort Putnam, on the west side,	598
Do. of West Point Plain, on the west side,	188
Do. of the Crow's Nest, on the west side,	1418
Do. of Bull Hill, on the east side,	1486
Do. of Break-Neck Hill, on the east side,	1187
Do. of Butter Hill, on the west side,	1529
Do. of New Beacon, on the east side,	1585
Do. of the Old Beacon, on the east side,	1471

Catskill Range.

Altitude of the Round Top, above tide-water,	3804
Do. of the same above the base of the range,	3105
Do. of the High Peak, above tide-water,	3718
Do. of the same above the base of the range,	3019
Do. of the base of the range, above tide-water,	699

I remain yours, with the greatest respect,

A. PARTRIDGE.

(NOTE B.)

Experiments made by the Assay-Master of the King of the Netherlands, at the mint of Utrecht, on the native copper existing in huge blocks, on the South side of Lake Superior, in a letter from

his Excellency William Eustis, Minister Plenipotentiary and Envoy Extraordinary from the United States, &c. to Samuel L. Mitchell, dated Hague, Oct. 12, 1817.

Dear Sir,

Perceiving by the public newspapers, that my friend Dr. Le Baron had presented you a piece of copper, I inclose you the analysis of a piece, which he gave me, at the mint of Utrecht, a portion of which, in its crude state, I presented to the Minister of Foreign Affairs to be deposited in the University of Leyden. My object in procuring an assay in a foreign country, was first to add to the diffusion of information respecting our country, and secondly that it might be compared with experiments made in the United States. I had hoped to return this autumn, and to have taken it with me, but the state of our commercial relations with this country has necessarily deferred that hope until the spring. If Dr. Le Baron is near you, I will thank you to present me to him ; with great respect and esteem,

I am, dear Sir,

Your obedient servant,

W. EUSTIS.

THE HON. SAMUEL L. MITCHILL.
New-York.

The report from the mint, is in these words :

From every appearance the piece of copper seems to have been taken from a mass that has undergone fusion. The melting was, however, not an operation of art, but a natural effect caused by a volcanic eruption.

The stream of lava probably carried along in its course the aforesaid body of copper that had formed into one collection, as fast as it was beaten enough to run, from all parts of the mine. The united mass was probably borne, in this manner, to the place where it now rests in the soil.

The crystallized form, observable every where on the original surface of the metal that has been left untouched or undisturbed, leads me to presume that the fusion it has sustained was by a process of nature ; since this crystallized surface can only be supposed to have been produced by a slow and gradual cooling, whereby the copper assumed regular figures as its heat passed into other substances and the metal itself lay exposed to the air.

As to the properties of the copper itself, it may be observed that its colour is a clear red ; that it is peculiarly qualified for rolling and forging ; and that its excellence is indicated by its resemblance to the copper usually employed by the ENGLISH for plating.

The dealers in copper call this sort *Peruvian copper*, to distinguish it from that of *Sweden*, which is much less malleable. The specimen, under consideration, is incomparably better than Swedish copper, as well on account of its brilliant colour, as for the fineness of its pores, and its extreme ductility.

Notwithstanding, before it is used in manufactures, or for the coining of

money, it ought to be melted anew, for the purpose of purifying it from such earthy particles which it may contain.

The examination of the North American copper, in the sample received from his excellency the minister, by the operations of the cupel and the test by fire, has proved that it does not contain the smallest particle of silver, gold, or any other metal.

[REDACTED]

(NOTE C.)

A Letter from ROBERT R. LIVINGSTON, Minister Plenipotentiary from the United States to France, detailing the proceedings in the Negotiation for Louisiana, dated Paris, 13th July, 1803, and written to Samuel L. Mitchill, a Representative in Congress from the State of New-York.

Dear Sir,

I have for some time past been so much occupied by measures that have eventuated in the completion of our treaty for Louisiana, and the subsequent organization of a Board for settlement of our debts, that I have not had the leisure to reply to your favor of 7th February.

I had long foreseen that the possession of the left bank of the Mississippi, to which alone the views of our Government extended, would be insufficient to insure our tranquillity, if an active, powerful, and enlightened people, occupied the west bank, particularly that beautiful country that lies above the river Arkansas, opposite to our western establishments.

I therefore (though without powers) first endeavoured to satisfy the people in power here that the establishments would be of no use to them: that if they possessed Louisiana, it was proper to give us all the country above the Arkansas, in order to interpose us between them and Canada. I got my reflections on this subject submitted to the First Consul, through his brother; and notwithstanding his violent attachment to it, procured an assurance from him that some arrangement should be made satisfactory to us on this subject; and that it should be done in America by General Bernadotte. In March I ventured upon what was here considered as a bold and hazardous measure—a direct and forcible address to him personally on the subject of our claims—upon which, having received from him a *positive assurance* that they should be fully and promptly paid, I began to look forward to this as a mean of accomplishing my other object, because I was sure he could not go back from his personal promise; nor, in case of a war, which began to be probable, would he find any other means of discharging it. The spirited conduct of our nation in the affair of New Orleans was also of use, and so strongly pressed by me that the Minister called upon me for some proposition relative to that country. Though I was wholly without powers, I ventured on the 14th of March, to make them explicitly for the east side of the river, and all above the Arkansas on the west; and I received a verbal assurance a few days af-

ter, that the next day should bring me a full and satisfactory answer; and I doubt not that such was prepared; when, unfortunately, letters from Pichon were received, "and that all was quiet." This determined them to wait to see whether the war would pass over, and whether a better bargain could not be made. But as I continued to press the execution of their promise for the debt, and an explicit recognition of our right of depôt, the First Consul announced to council on the 8th (four days before Mr. Monroe arrived here) his determination to sell the country to us. The next day the minister called upon me for a specific proposition. The day after (the business being put into Mr. Marbois's hands for reasons that I cannot venture to explain, but as they afterwards said in compliment to me, as my friend,) the minister alarmed me by pretending that he had no particular authority to speak to me on the subject, but again called on me to say what I would give. As I had heard of Mr. Monroe's arrival at Havre I refused to act till he arrived, but asked why they wished me to propose for the whole of Louisiana when I had only asked the east side of the river and a portion on the west? He told me that I had asked all that was worth having, and therefore must take the whole; to which I told him I had no objection, but would now wait till Mr. Monroe came up. On the evening of the 12th Mr. Monroe arrived. On the 13th, while at dinner with me, I saw Mr. Marbois walking in my garden; I sent to ask him in, he said he would return in the evening; when he came he appeared surprised to see Mr. Monroe, not having, as he said, heard of his arrival; but after a short visit, as there was much company at my house, he begged that I would come to the treasury that evening at eleven. I went accordingly; when we formally discussed the whole business of the cession, which I told him I would communicate to Mr. Monroe, and he promised to get full powers. We were together till past two. The next day I presented Mr. Monroe to the minister, who received him politely, but said nothing of business. The great point having been got over, the difficulty of bringing the Consul to sell, our subsequent discussion related only to the price and matters of form, so that if Mr. Monroe had not been taken ill and confined to his bed for ten or twelve days, having been taken the fourth day after his arrival, we should have agreed probably on or before the 20th of April. It is impossible to tell you, my friend, the difficulties I have had to encounter in this negotiation and my alternate hopes and fears even after they had determined to sell, and called upon me for a proposition; and even after the arrival of Mr. Monroe at Havre, there was a *moment* in which I doubted Mr. Talleyrand's sincerity, particularly when on the 10th he told me that his proposition was unauthorized. I sincerely wished at that instant that Mr. Monroe had brought with him an assurance that New Orleans was in our possession. This would not have injured us; but as things have turned out, it is better as it is. I have been very happy in the perfect accordance of sentiments between Mr. Monroe and myself in every measure that regarded the treaty, and in steps that I had taken to pave the way for its execution previous to his arrival. After that event, nothing was left but some commercial arrangements and the price; in which we met with much candour on the part of Mr. Marbois. I trust that it may be found acceptable to our country. Here it is considered as a most important acquisition, and has procured for me the congratulations of

all the corps diplomatique who knew the difficulties I had to encounter on my arrival, and who are warmly and vainly soliciting the payment of their claims, and that we have got so happily satisfied. I have given you this detailed account, because I consider this as one of the most important treaties made by our country; and it may be interesting to you, as a Statesman, to know the steps by which it was accomplished.

I meant to have treated with you on some interesting philosophical and agricultural subjects, but politics have occupied too much of this to let me touch upon any other. Mr. Monroe yesterday went to England as resident minister. I have some thoughts, as all the court is absent now, to make that interesting kingdom a visit also; but am not sure whether I shall effect it. Nothing is more united and enthusiastic than this nation in war measures, though nothing would have been originally more averse to war; but they consider it as totally unprovoked on the part of Britain, and are resolved to avenge it. Almost every community have imposed voluntary taxes upon themselves to defray the expence of ships, boats, &c.

We have had a very gay 4th of July; I had 60 of my countrymen at dinner, and a ball and supper for my fair country-women, of which there are many here by birth, marriage, or adoption.

Adieu my dear Sir; shew this to Mr. Clinton and present him my compliments, and tell him that he has been for some time my debtor for a letter.

I am, with the highest esteem, dear Sir,

Your obedient humble servant,

ROBERT R. LIVINGSTON.

SAMUEL L. MITCHILL, Esq.

[The British will probably take some merit with us for our treaty, but have not the least claim to it. Lord Whitworth assured me, a few days before he left this, that Louisiana had never been an object of discussion between him and the French Government; this appears by the papers laid before parliament, and Lord North, upon announcing our treaty, declares he had no knowledge of it till it was communicated officially (by our directions) by Mr. King, who himself knew nothing of it till concluded.]

(NOTE D.)

Description of a Fossil Elephant, discovered in Wythe County, southwest of the River Ihanhawa, in Virginia, written by Dr. John Stranger, to lieut. Wm. L. Brownlow, of the U. S. Marine Corps, stationed at New-York, dated Wythe County, March 10, 1818.

Dear Sir,

Your letter has been received some weeks ago, after my return from North-Carolina, which should have been answered before this time, had I not been at a loss to know what particular information Dr. Mitchill wishes

with regard to the teeth and bones found on Mr. Kinsa's land. However, that you may not think your friendly application to me disregarded, I will now comply with your request, as well as I can. The place where the discovery was made, is a small marshy piece of ground, not more than 40 feet square, in a field which has been for more than 20 years in cultivation, and has previous to that time, as I am informed, been used as a lick, by horses and cattle; a small spring of mineral taste oozes from the spot. The owner of the field observed repeatedly in the summer season, in dry weather, after a refreshing shower, that the place was covered with a white substance like salt. Under this impression he began to dig in search of salt water. The ground being opened a few feet in depth, he found a few uncommon teeth and small round bones, about 4 inches long and about $1\frac{1}{2}$ inches in diameter, solid and somewhat larger in circumference at each end, like joints of a tail, or toe. The news of this discovery induced several persons to visit the spot: I also went, and being desirous to make a farther search, I obtained permission to make a larger opening, say 12 feet square, and found a number of still larger teeth and bones, belonging, in my opinion, to two different species of animals, larger than any we now have within our States. The bones were so much decayed, that they would generally fall to pieces, when exposed to the air; the teeth I preserved, and some time afterwards put them in the possession of Dr. John Floyd, (a member from Virginia in the present congress) residing in Montgomery county, who probably, sent them to some Museum. The soil was so strongly impregnated with the mineral, that it tasted like copperas itself. The position in which the teeth and bones were found was somewhat remarkable. The large teeth, two of which weighed 16lb. each, and several more of less weight and size, were deposited in a manner by themselves, and deeper in the ground, according to their gravity; round about these, some little distance off, were the teeth and bones of the lesser animals, placed in a semicircle; of the latter I found several jaw-bones with their teeth sticking fast; and in one upper-jaw I found besides a tusk, about 20 inches long, shaped like a cow's horn, round, crooked, tapering off to a point, hollow at the base, and pointing forward towards the nose, also a couple of ribs and shoulder blades. The smaller animals I judged to have been of the carnivorous, from the shape of their teeth, which had a double row of high conic processes, three to each row, between 3 and 4 inches from the bottom of the root to the top of the tooth, and each was about 3 inches long. All the teeth of the large animal (I found no bones of this animal) were flat, and ribbed transversely. This remarkable position of the different bones and teeth, made me suppose, that the large animal had died in a conflict with the smaller ones. Or why should I have found several sets of teeth and bones of the one kind, and all in that semicircle, and but one set of teeth of the large animal opposite to them. None of these teeth were deeper than about 6 feet in the ground, when a flat limestone rock commenced, which rock must have been once nearer to the surface, for I found pine-knots, and pieces of rotten wood within two feet above it. This, sir, is all the information I can think of; should Dr. Mitchell be desirous to know any other circumstance relative to this affair, I will cheerfully give it, if in my power.

I am, Sir, respectfully, Your humble servant,

JOHN STRANGER.

(NOTE E.)

A Description of the Hot Springs, near the river Washitaw, and of the Physical Geography of the adjacent country; in a Communication from Major S. H. Long, of the U. S. corps of Engineers, to Samuel L. Mitchell, dated St. Louis, Missouri, February 23, 1818. (Read before the Lyceum of Natural History at New-York, 20th April, 1818.)

My Dear Sir,

I take the liberty of communicating upon a subject which you will no doubt consider somewhat interesting, not only because it relates to a curiosity of the first magnitude, but because it is connected also with a profession which is greatly indebted to yourself, for its respectability and advancement in this country. The subject alluded to, is the Hot Springs of the Washitaw, which I visited on the first day of January last, on my return from Red river. Together with an unvarnished description of the Springs, I hereafter present you a rude sketch of the adjacent country, which will enable you to form some idea of their locality.

These remarkable springs are situated in N. lat. $34^{\circ} 14' 7''$, upon a small creek of the Washitaw, bearing their name, and uniting with that river at the distance of 12 or 14 miles from the springs. The country in which they are situated is extremely hilly and broken, the highlands being divided into numerous ridges and knobs by creeks, runs, &c. The rocky formations, in this neighbourhood, are both various and interesting, exhibiting various orders of concretion, from the softest slate to the hardest flint. On the Washitaw, slate of an excellent quality for tiling is found in abundance. Near the springs I observed several varieties of this formation, one of which appeared well adapted for writing slates, and a second, sufficiently hard and fissile for tiles. On Hot Spring creek, and several other water courses in its vicinity, are extensive quarries of stone, resembling, in colour and texture, the Turkey oil stone, which, by numerous experiments, has been proved equally as useful in sharpening tools, &c. On the hills, tuff and other mineral sines abound. The stones in many places are strongly impregnated with iron, and rich ore of this metal is frequently to be met with. Upon the hill from which the Hot Springs issue, the rocky formations are different in many respects from any I have observed upon the other hills. By the operation of heat, as also of the water which holds in solution a large portion of the carbonate of lime, no where else to be seen upon the surface of the ground, various changes have been wrought upon them. In some instances the works are so incrustated with calcareous concretions, that it is difficult to ascertain their original character without a minute examination. In others, pebbles and stones of various forms and complexions, are so strongly cemented together with iron and calx combined, as to constitute large masses of compact and solid stone. The rocks and stones generally upon the hills, are extremely ragged and favillous, vast bodies of them, in many instances, having the appearance

of being composed entirely of the calcarious matter once held in solution by the hot water of the springs. In regard to the natural growth, I observed nothing peculiar to the hill whence the springs flow, that was not common also to the other neighbouring heights. The high lands generally, in this quarter, are covered with forests of yellow or pitch pine, and support an exuberant growth of vines, furze, bramble, &c.

The course of the creek in passing the springs, is nearly south. The quantity of water running in it, is, at this time, (Jan. 1.) about one thousand gallons per minute. Hot Spring hill, or mountain, (as it is more frequently called,) is situated on the east side of the creek, and is about 550 feet high. The extent of its base along the creek is about six hundred yards. The hill is of a conical form, and has a base not exceeding $\frac{1}{4}$ miles in diameter. It is completely insulated from the other hills by which it is environed, by creeks, brooks, and ravines. Directly north of it, on the same side of the creek, is another hill somewhat higher, separated from the former by a small brook. On the west side of the creek, directly opposite to Spring hill, is a third, considerably higher than either of the last mentioned, and situated a little distance from the creek, leaving an area of considerable extent between its base and the creek, upon which cabins are built for the accommodation of those who visit the springs.

There are said to be sixty different springs or fountains of hot water, occupying a distance of about four hundred yards along the east side of the creek. On the west side there is but one, situated immediately upon the shore, and discharging but a moderate quantity of water : while on the other side, they are variously situated, some of them near the edge of the creek, upon the same level, and others on different parts of the declivity, elevated from 10 to 150 feet above the water level, and discharging from one to fifteen or twenty gallons each, per minute. Immediately in the vicinity of some of the hot springs, are fountains of cold water, in some instances gushing out of the ground within a very few feet of the Hot Spring.

There have been 14 or 15 rude cabins constructed along the creek, by persons who resort hither, occasionally, for the benefit of the springs. They are situated mostly on the west side, and are calculated merely for a summer residence, very few of them having chimneys. At present none of them are occupied, except one, in which a family took a temporary residence a few days since. There are no settlements yet made nearer than the Washitaw, where there are three at the distance of about eight miles from the springs. From these settlements, residents at the springs obtain provisions by paying a high price ; but, to the credit and generosity of the settlers, it may be said, that they are equally as ready to supply the poor, as the rich, although they run the risk of never receiving payment for their produce. There have been instances where they have refused to take double their selling price for their corn, but have chosen rather to divide it between the poor and rich, not according to their ability to pay, but in proportion to the necessities of the purchasers, and the quantity of provisions absolutely required for their subsistence.

During my delay at the springs, I made the following observations relative

to their respective temperatures, &c. commencing in the creek immediately below the springs, and passing up along its eastern shore as far as they extend. The numbers annexed to the springs are merely accidental, indicating the order in which I examined them.

Temperature of the creek below the springs, 64 deg. Fahrenheit, probable discharge, 1100 gallons.

Temperature of spring No. 1, being the lowermost on the creek, 122 deg. probable discharge per minute, 4 gallons.

Temperature of spring No. 2, a few feet from No. 1, 104 deg. probable discharge per minute, 1 gallon.

Temperature of spring No. 3, about 25 yards above the last, 126 deg. probable discharge per minute, 2 gallons.

Temperature of spring No. 4, after uniting with a spring of cold water, 124 deg. probable discharge per minute, 2 gallons.

Temperature of springs No. 5, 6, and 7, rising very near each other, the hottest most elevated, 126, 94, and 92 deg. probable discharge per minute, 8 gallons.

Temperature of spring No. 8, elevation 50 feet, after mingling with a cold spring, 128 deg. probable discharge per minute, 10 gallons.

Temperature of spring No. 9, elevated 60 feet above the water level, 132 deg. probable discharge per minute, 2 gallons.

Temperature of spring No. 10, elevated 40 feet, *bushes growing in the water's edge*, 151 deg. probable discharge per minute, 5 gallons.

Temperature of spring No. 11, issuing near the margin of the creek, elevated 3 feet, 148 deg. probable discharge per minute, 14 gallons.

Temperature of spring No. 12, 20 yards from the last, having a sweat house upon it, 132 deg. probable discharge per minute, 20 gallons.

Temperature of springs Nos. 13, 14, and 15, all excavations for baths, situated just above No. 12; 124, 119, 108 deg. probable discharge per minute, 6 gallons.

Temperature of spring No. 16, an excavation also, near the last, 122 deg. probable discharge per minute, 2 gallons.

Temperature of spring No. 17, uppermost on the creek, and has a sweat house and bath, 126 deg. probable discharge per minute, 5 gallons.

Temperature of springs Nos. 18, 19, 20, 21, and 22, all rising near together on the level area, 126, 128, 130, 136, and 140 deg. probable discharge per minute, 9 gallons.

The last mentioned cluster is situated upon a prominent part of the hill, elevated at least one hundred feet above the level of the creek. In the same area are several others,—and what is particularly remarkable, several springs of cold water rise in the same plat, one of them within a very few feet of the hottest spring. In some of these springs, I observed bubbles rising in rapid succession, but could not discover any remarkable scent emitted from them.

Temperature of the creek immediately above the springs, 46 deg. probable discharge per minute, 1000 gallons.

Besides the springs enumerated above, there are many others situated on the same side of the hill, at different elevations above the water level.

The heat of the water in the summer season, is said to be much greater than at present, and the discharge somewhat less. The water is then hot enough to draw tea or coffee, cook eggs, and even meat. In the hottest of the springs, I observed bushes growing, as also an abundance of beautiful moss of a deep green colour, and of a vegetating appearance;—and what is still more wonderful, a kind of water insect, something longer than the wood louse, but resembling it in shape, lives and sports in the heated element.

There is a spring of cold water about 3 miles from the hot springs, in a north-easterly direction, which has obtained some notoriety from the circumstance of its having occasioned the death of a man who had heated himself in pursuing a bear, and drank too freely of its water, and has therefore obtained the name of the Poison Spring. From the description given me of this spring, I am inclined to think it a chalybeate, pretty strongly impregnated,—and containing, possibly, some arsenic. Its waters deposit an abundance of oreous earth, adhering to the stones in the bottom and sides of the channel through which they flow.

Believe me, dear Sir, with sincere regard, your most obliged, humble servant,

S. H. LONG.

(NOTE F.)

Extract from the report made by Dr. Mitchill, Chairman of the Committee for Commerce and Manufactories, to the House of Representatives, February 18, 1804, on the boundaries of Louisiana, &c.

“By a series of memorable events, the United States have lately acquired a large additional soil and jurisdiction. This is believed, besides the tracts on the east side of the Mississippi, to include all the country which lies to the westward between that river and the great chain of mountains that stretch from north to south, and divide the waters running into the Atlantic from those which empty into the Pacific ocean; and beyond that chain, between the territories claimed by Great Britain on the one side and by Spain on the other, quite to the South Sea.

“It is highly desirable that this extensive region should be visited; in some part at least, by intelligent men.”

(NOTE G.)

The progress of the Human Mind from Rudeness to Refinement; exemplified in an Account of the Method pursued by Col. Benjamin Hawkins, under the Authority of the Government of the United States, to civilize certain Tribes of Savages within

their Territory. New-York, 1816.

The war which in 1814 led the inhabitants of Tennessee and Georgia to destroy, in their own defence, a considerable part of the Creek nation, has been interpreted by some persons as proving the inutility of attempts to civilize savages. This conclusion is incorrect. The Cherokees have been initiated into the arts of improved life as well as the Creeks; and yet the Creeks only have engaged in hostility against the United States. There must therefore have been some other cause than the lessons they have learned from our agents. And this was probably the instigation of our secret and avowed enemies.

Until this exterminating warfare arose, the great problem of civilizing the aborigines was believed by many to have been in a fair way of being solved, or rather that it was already solved in the United States. The subjects of this philanthropic and instructive experiment were the Creeks and Cherokees. The former of these nations of Indians came from the west of the Mississippi. There is a tradition among them, that there are in the fork of Red-River, two mounds of earth, and that at that place the Cusatus, Cowetuns and Chickasaws found themselves; that being distressed by wars with red-men, their forefathers crossed the Mississippi, and travelling eastward, they passed the falls of Tallapoosa above Tookaubatche, and settled below the rapids of Chatahooche. Hence they spread out to Ocmulgee, Oconee, Savannah, and down the sea-coast towards Charleston, where they first saw white people. By those they were resisted and compelled to retreat to their present settlements.

This nation possessed a tract of country about three hundred miles square. It is for soil and climate, as well as natural advantages in general, not surpassed perhaps by any spot of equal extent, upon the face of the earth. The number of warriors at the last enumeration amounted to about four thousand. Their settlements have been surrounded for many years by the Americans, the French, Spaniards and English. They were tempted in various ways to be concerned in the leagues and stratagems of their neighbours, who wished to get possession of their lands. They, however, generally conducted themselves with remarkable prudence, and avoided such alliances as might implicate them in depopulating wars. Accordingly, they preserved their national existence, and at the commencement of our federative government, attracted a large and early attention.

The greatness of their numbers, the value of their lands, and their contiguity to the colonies of the enterprising nations of Europe, made it necessary to have a seasonable and full explanation with them. At that time George Washington was President of the United States: and the Creeks were in a hostile mood. Congress was sitting in the city of New-York; and the principal subject then under consideration was, whether they should be treated by forcible and warlike operations, or by gentle and pacific means. The considerate statesmen of the United States were divided in opinion on these points. Some were in favour of the exterminating, and others of the conciliatory plan. Among the latter was Benjamin Hawkins, then a Senator in

Congress from North Carolina, who dissuaded in strong terms the project of hostile operations against the Creeks. By his interference a military expedition was withheld until a negotiator could be sent into the nation, and invite them to a peaceful parley. The man selected for this service was Marinus Willet. He was employed in preference to a clergyman whom it was originally intended to send. Willet penetrated their country, obtained a hearing, and brought with him M'Gillivray, and a deputation of the nation to New-York. Here a treaty was held, and a peace established in the year 1790.

The meditated war having thus failed, the next thing to be done was to regulate trade and intercourse between the red men and the white. For this purpose Congress passed a law directing the manner of dealing with them, delineated the boundaries, and appointed an agent to superintend the department of Indian affairs south of the river Ohio. This was during the administration of Mr. Adams. Mr. Hawkins was appointed the manager of this business. He had previously acted a distinguished part in several negotiations with the natives, and had acquired much knowledge of their situation, their wants, and the mode of doing business with them. Accepting the commission, this gentleman left the Senate, quitted polished society, and entered upon the arduous work of protecting and civilizing the Indians.

An undertaking of this sort has of late been deemed chimerical or impossible. The labours of the zealous Jesuits and the industrious Moravians had so frequently proved abortive, that few even of the well wishers of the experiment entertained much expectation of its success. The agent, however, was sanguine in the cause, and the government seconded his views. In the course of about ten years, he succeeded in advancing some of these people from the state of hunters to those of herdsmen, cultivators of the soil, and manufacturers; and the changes in their moral, intellectual and social disposition, have been effected without the assistance of other missionaries, or of scholastic or collegiate education. Indeed Mr. Hawkins entertained an opinion that an introduction to the mysteries of religion, and an acquaintance with the intricacies of literature, ought to follow, and not precede, an initiation into the more useful and necessary arts, such, for example, as those of procuring food and clothes.

This active reformer did not commence his undertakings by teaching his pupils the shapes and sounds of letters in the alphabet, nor the dogmas and doctrines in the catechism. He omitted these things altogether; or rather, he studiously forbade their introduction. He adhered to a rule of interdiction against all preachers of every sect, from holding converse with the Creeks, but treated members of the church with great politeness in other respects, whenever they visited the agent at the factory; and for several years, the alarms of the natives were not excited by the discipline and lessons of schoolmasters. When Mr. H. first presented himself among the Indians, and talked to the assembled chiefs on his project of civilizing them, they replied to him in the most insulting terms, reprobated his scheme with great bitterness; and concluded by uttering sounds of the most contemptuous signification around the circle.

After their disgust and merriment had in some measure subsided, he told

them in a mild and frank discourse, that he was now done with *the men*; but that, as he was by no means discouraged, he should quit them, and address himself to the other sex. This he soon found means to accomplish; and by soothing arts, by kind treatment, and by assuring them that he could teach them now to procure plenty of provisions and clothes with their own hands, he gained the confidence of several girls and women. To them he imparted the arts of *carding, spinning, and weaving*; and to these they became soon attached, because petticoats, jackets and other articles of dress could thereby be easily procured.

But it was not possible to make all the females spinsters. Some for want of inclination or opportunity, and others though lack of machinery, could not practise those domestic employments. They still laboured after the manner of Indian women; and among other occupations, tended a little patch of maize for subsistence. Finding that sometimes the women had a surplus of corn, the agent's next point was to teach them to exchange it for something to make petticoats and other raiment. With this view he instructed them in the use of measures, and these he reduced to an intelligible value in money. A bushel of corn, for example, was valued at a quarter of a dollar; and where this precise coin was not at hand, the sign of it was a single white mark, called a *chalk*. This word thence became a nominal coin, or rate of value; and as a *chalk of corn* denoted a "bushel," so a *chalk of calico, tobacco*, or any thing else would signify as much of either of these articles as could be bought by a quarter of a dollar, the estimated value of a bushel of corn.

While this agent was proceeding by these means to improve and enlarge the minds of the Creeks, he was not neglectful of the use and application of *weights*. He made figures to illustrate the construction of steelyards, on a piece of paper. He explained this to one woman, and after making her comprehend it, handed it to another. And by ascertaining the weight of hogs, and other things, which used always to be sold by tale, and reducing them to *chalks* or quarter dollars, he made his learners understand that a heavy hog was worth more than a light one; and by actually paying them in proportion to the weight, demonstrated to them the difference in value between things heretofore rated alike. This gave them great satisfaction, and made them more careful to fatten their hogs. The like happened in respect to corn. This was formerly sold by the varying quantity of a basket full, till Mr. H. instructed them in the use of an established and unvarying measure, the half bushel; taught them to reduce such a measure to a certain weight by the steelyard; and then again to calculate this weight in *chalks* or quarter dollars.

At the same time, as much pains was taken as possible to instruct the boys and girl's about the agent's house, and in his family, in the practice of the English tongue. In like manner the Indian children who lived with his negroes, were taught to speak our tongue. But all this was accomplished by rote, and without the sight or mention of a book.

Progressing in these ways, the spinning and weaving of cotton increased rapidly. There were in 1805, *twenty* looms in the lower, and *ten* among the upper towns. Of the former, twelve were wrought by Indians, and eight of them were constructed by Indians. Of the latter, three were worked by natives,

and three were built by them. Three of the looms in the upper towns were kept agoing by a white woman for a toll which was fixed at every fifth yard. The women on the Flint river had then applied for fifty additional spinning wheels. And such was the power of example prompted by interest, that some old men and boys learned to spin, and seemed to take pleasure in the exercise. In the upper towns there was at that time a demand for five more looms and one hundred and fifty more spinning wheels. Several men of the half breed, had both constructed looms and wove cloth in them, with their own hands.

Encouraged by these prospects and successes, the women appointed a time and solicited a talk with the agent. They appointed one of their venerable matrons to deliver the talk to him in their behalf. He met them, and in the assembly of the women, was thus addressed: "Father, we women are poor and foolish; but you, as our great father, will excuse our poverty, and pardon our folly. When white men have come into our nation, they have never studied the good of the women, nor endeavoured to better their oppressed condition. All they have hitherto done is to make our situation more wretched. They have employed every art to raise and shorten our petticoats, and have thereby left us more exposed and naked than they found us. But you, father, commiserate our condition; you pity our nakedness and weakness; you say you will instruct us to cover ourselves, and be decent and warm; you will enable us to support ourselves, so that we and our children shall be in no danger of starving in the swamps. You come to lengthen our petticoats, and extend them over us from the hips to the ankles. Father, we will follow your advice: speak, and we will obey."

He by degrees encouraged them to split rails, to make fences of them, to inclose their fields, and to till them with their own hands; himself showing them how, and by his example, convincing them that it was at once respectable and useful. Among the Creeks there was a peculiar difficulty in overcoming the aversion of the men to labour. Inured alternately to hunting, indolence and war, they threw all the toil of domestic affairs, the carrying of burthens, and the drudgery of life upon their females. It was therefore a hard lesson to make the men work at all; and particularly to assist the women in their laborious occupations. The men, however, had learned by this time, that as game grew scarce in the forests, the employments of the women and girls turned to much better account than their own, and that with their pigs, maize, and cotton, the females had already rendered themselves in a good degree independent of the men. It was now that the agent advised the young women to refuse favours to their sweethearts, and the married women to repel the caresses of their husbands, unless they would associate with them, and assist them in their daily labours. This expedient, though perhaps not rigidly enforced, nor in all cases adhered to, was however not without its effect in breaking the ferocity of the masculine temper, and reducing it to a milder and softer tone.

To enforce the necessity of industry, M. H. availed himself of the scantiness of provisions to give them an exhortation. Some instances had been reported of children dying of hunger, and particularly, of two little girls, as he was on his way to a conference with the chiefs. At the conference, the subject was mentioned by Mr. Cornells the interpreter, and after some other

servations made by the chiefs, Mr. H. stated that these events had made a serious impression upon his mind, and on the way to the conference he had put the question to himself, who killed these little girls? This answer immediately obtruded itself: "You, Mr. Hawkins, you murdered these little girls. You Efaa Haiyo, Oche Haiyo, and Tushinmeggee Tellico, you murdered these little girls. You chiefs and rulers of the nation, you murdered these little girls. In all countries it is the business of the rulers to direct the labour of the community so as to support the people, and if they neglect to do it, they are answerable for the consequences. If a bear, or any man, red or white, had attempted to murder these little girls, you would have risked your lives individually or collectively to save theirs. And yet you would not exert yourselves to destroy this enemy called *hunger*."

The presenting the subject in this dress caused some serious conversations among the Indians, and the result was that they would sow wheat, and exert themselves to destroy the enemy called hunger. Preparatory to this they had in 1804, committed to the earth one hundred and seventy-six bushels of seed; this afforded an excellent crop, and was instrumental in saving several lives. The agent furnished the seed from his own stock. The wheat crop is ripe in May; and the corn crop, which in favourable seasons is also exceedingly good, comes to maturity in June.

The speaker of the nation has his farm in good fence, staked and ridged. He cultivates his whole crop with the plough. Last year he planted about one hundred and fifty peach trees, and sowed three bushels of wheat. He had also begun the culture of cotton, and had a fine field of it; likewise a promising show of corn, potatoes, pumpkins, ground peas and beans. He had nine females of his family employed in spinning, and a loom in his house with a spring shuttle. The like was done by several other of the most considerable men, who employed the plough in agriculture and clothed themselves in homespun.

Neat cattle were owned in large numbers by the Indians. Several of them have herds amounting to 100, 500, 1000, and even 2000 heads. They had become very much attached to this kind of stock, and took great pains to procure them. These creatures are computed to double their numbers every three years. Their owners exchange them with Georgians for cloths. Butter and cheese have been made in more than an hundred places. In 1804, these arts were rapidly increasing. The men had also become acquainted with the tanning of hides into leather; and the making of the latter into saddles.

They also had negro slaves to work for them. The African temperament, which bends to servitude under the dominion of the black and white man, submits also to the sovereignty of the red-man. Several of the more wealthy Indians hold a number of such domestics. They were rapidly acquiring a knowledge of real estates, and of the utility of holding their lands and improvements in severalty. In evidence of which, it may be mentioned that a number of them were growing solicitous about deeds and titles.

One remarkable fact concerning their progress in calculation is well worthy of notice. In teaching them the use of the steelyard, they necessarily became acquainted with arithmetical cyphers. By a little practice, not more than other persons are obliged to take, they learned the use of these signs in adding, subtracting, multiplying and dividing numbers, and became

ready and correct calculators. And this they accomplished without being able to read a single letter. The symbols of numbers being signs of ideas, were acquired with equal ease by persons of all languages, while letters or alphabetical characters being signs of simple sounds, can be comprehended by the persons only who are conversant in the tongue which they are intended to explain. A Muskogee Indian, therefore is exactly in this state of advancement; he can sum up an invoice or bill of parcels, by virtue of his knowledge of *figures*, but he cannot read a word nor line of the writing on account of his total ignorance of *letters*.

Thus they begin to find the usefulness, and suffer the want of literature. The inconveniences and disadvantages of this situation rendered the older class, and especially those who had property, desirous of procuring a better education for their children. And under the operation of this conviction, they began to admit schoolmasters, to make their idle and vagrant boys submit to restraint, and to receive regular instruction in reading and writing the English language.

Great solicitude, however, was expressed on this subject by the chiefs. Several of their young men had been educated from home, among and by the white people, and had returned into the nation, completely ruined for all the purposes of usefulness. They had acquired such a contempt for the Indian life and manners, that they violated the customs their forefathers, and disobeyed the rulers. Losing public confidence in this manner, they were suffered to wander and prowl through the nation, without being taken notice of, or suffered to have a share in its government. There was no small analogy between these youths, and those of our own nation who go to Europe for instruction. They but too often acquire foreign manners and habits, conceive a dislike for their country, its inhabitants and institutions, and oftentimes mar their own happiness, and turn out useless to the public. So an Indian lad, educated among white people, has never in any instance been known to say one word in recommendation of the wheel, the loom or the plough, of useful arts, or domestic manufactures, or, in short, of any thing conducive to the general welfare. On the contrary, their discourse principally turns on the extravagance in which they lived, and the dissipations in which they shared; but they utter not a sentence on the condition of the greater part of their species, and of the human race who are doomed to live by labour. But education in their own country, of the kind which their state of society requires, and to the degree called for by their actual need, will gradually creep in and be followed by the most salutary changes in their situation.

In many of the villages, particularly of the Lower Creeks, the natives had already made considerable progress in the silversmith's business. Ornaments of silver, such as spurs, broaches, rings, silver beads, ornaments for the ears and nose, armbands and wristbands were manufactured to a considerable extent.

Considerable steps had also been taken in the gunsmith's art, particularly stocking the pieces, and doing some of the work about the locks.

These are some of the leading features of Mr. Hawkins' mode of treating these uncivilized tribes, and leading them on from rudeness toward refinement. Indeed, the business of civilizing Indians, however problematical it may

once have seemed, was deemed to have been in a train of successful progress. There came in 1805 a deputation of eighteen Cherokees to the seat of the national government: they were all men of property, and lived, when at home, on enclosed and cultivated farms. They were clad after our manner, in homespun cloth of their own spinning, dyeing and weaving. And several of them speak our tongue. I have seen letters written by Cherokee girls of the half-breed, as well expressed, and in an good a hand as our young females write.

I might relate to you what other measures had been adopted to instil into the minds of these people more correct notions and practices of civil and criminal law, than the barbarous and bloody policy they formerly pursued. The agent had progressed so far as to take punishment out of the hands of the irritated individual, and inflict it upon the offender by the public arm. And he had instituted a court of law, where substantial justice was speedily obtained by a trial upon the naked merits of the case.

The influence of music was tried with remarkable benefit among the Cherokees. The young women had clothed themselves handsomely, after our manner, in cotton fabrics of their own manufacture. They then were qualified to dance to the tunes of the violin. Care was taken to teach the steps, figures and gestures of the white people. They soon became active and graceful dancers. This had a surprising effect upon the young men. For they were excluded from the company, unless they would dress themselves in a decent manner. The attire and the occasion obliged them to behave themselves properly. And thus were their manners softened and refined.

On surveying the efforts of theological missionaries ever since the settlement of our country, it is truly lamentable that they have done so little. Generally speaking, their labours, even those of the early and zealous Jesuits, have been lost or misapplied. Many of our considerate and contemplative men have altogether despaired of either civilizing or christianizing the savages. It now appears what is the cause of so many and such lamentable failures. We discern wherefore, with such mighty efforts, so small an amount of good has been done.

Missionary individuals and societies have begun the work at the wrong end. They have attempted to instil the doctrines of a sublime religion, before they introduced arts and manufactures, and before they tamed man, and made him a settled and domestic animal. And while they proceeded in this way, they either totally failed, or made but trifling progress—whereas, if they would employ the same amount of capital, and zeal, and talent in humanizing the wild hunters of the forest, their condition would instantly improve; their tribes be preserved from extinction; by degrees the useful arts of agriculture and manufacture would gain an establishment; and upon this foundation every kind of improvement might be erected.

(NOTE H.)

Dear Sir,

Monticello, June 13, 1800.

Your favour of May 15, happened to be written on the very day on which I left Philadelphia; and as I took a very circuitous route and was long on the

way, it is but lately I have received it here. The interesting paper it covered goes by this post to the Philosophical Society at Philadelphia. The calamities which our great cities have experienced from the new infection render it important to discover what are those principles in nature which forbid the soil to be covered here with a solid block of buildings, and men to be piled on one another, as they may with impunity in Europe. Do our cloudless skies and the solar heat consequently accumulated, generate effects here on the same materials which are innocent under the bank of clouds constantly hovering over Europe? However, while those, who, like yourself, hold the clues to nature's secrets, are engaged in pursuing them, we of the multitude may rest in tranquillity under the assurance that they will at length be laid open. Nor is it in physics alone that we shall be found to differ from the other hemisphere. I strongly suspect that our geographical peculiarities may call for a different code of natural law to govern our relations with other nations from that which the conditions of Europe have given rise to there. I sincerely join in your congratulations on the revival of those principles on which our republic has been founded; perhaps future ages may never know the real soporific, which, in gentle slumbers, was carrying them to their grave.

I am with great esteem, and respect, Dear Sir,

Your most obedient servant,

THOMAS JEFFERSON.

DR. MITCHILL.

Washington, May 21, 1805.

THOMAS JEFFERSON presents his friendly salutations to Dr. Mitchill, and sends him the extract of a letter he has received from Mr. T. M. Randolph, with a small bag containing, as he supposes, the specimen of salt mentioned by Mr. Randolph. He received but one, though two are mentioned.

"A person from Greenbriar county of this state, the owner of a very large cave near the court house, from which great quantities of saltpetre have been made, has, a day or two since, lodged with me a specimen of a kind of salt produced in an attempt to make saltpetre from the earth of a newly discovered chamber of the cave. This specimen seems to consist of at least two distinct neutral salts, one of which is to my tongue Glauber's salts exactly. I suspect a third to exist also, but I have no means of ascertaining, nor even of determining the form of the crystals, which are so small that they require a glass to magnify them. I send by the stage a specimen to you, and one for Dr. Mitchill, which I must trouble you to forward to him. A promise which I could not avoid making the proprietor of the cave, to have the product of it analysed and its value determined for him, forces me to give you this trouble."

THOS. JEFFERSON presents his compliments to Dr. Mitchill and his thanks for the pamphlet he was so kind as to send him, and which he communicated to Mr. Randolph. He expects on his return to Washington (which will be in three weeks from this time) to find there a great collection of the chemical subjects of Louisiana which Captain Lewis has sent, with a desire to

forward to the Philosophical Society at Philadelphia : from them we are to hope to learn their contents. He tenders to Dr. Mitchill his friendly salutations and assurances of great respect.

Monticillo, September 8, 1805.

THOMAS JEFFERSON returns his thanks to Dr. Mitchill for the statistical manual of New-York, and is pleased with every evidence of the growth and prosperity of so important a city. The Secretary at War would have set out this day, but for the rain now falling, to meet the Vice President and Colonel Williams there, to consider what works can be of any avail towards protecting that city from naval enterprises. Thomas Jefferson salutes Dr. Mitchill with friendship and respect.

Washington, June 24, 1807.

(NOTE I.)

February 27, 1806.

Dear Sir,

Wednesday, February the 19th, was delivered a message from the President of the United States to the Senate and House of Representatives, relative to the discoveries made upon the Missouri River ; whereupon it was ordered, that 1000 copies of the message, together with the accompanying communications be printed for the use of the members ; I request you will send me one of the accompanying communications, by the post. I am very weak, and have evident signs of an approaching dissolution ; but I have lived long enough since I have lived to see a mighty people animated with the spirit to be FREE, and governed by transcendent abilities and honour. If where I am going I am allowed to look down and behold the world I leave, I shall rejoice to find the United States, beyond example, a great and a flourishing people.

I am, Dear Sir,

Your Obedient Servant,

HORATIO GATES.

(NOTE J.)

Extracts of Letter from Dr. PRIESTLEY, dated at Northumberland, and addressed to Dr. MITCHILL at Washington, Jan. 9, 1802.

I feel myself much obliged to you and Dr. Miller for so early an admission of my paper on Galvanism into the Medical Repository. I have another in answer to Mr. Cruickshank in Nicholson's Journal to Woodhouse, to be forwarded to the Repository, which I hope you will insert when convenient. I am very glad to hear of the extensive circulation of that valuable work,

which does so much credit to the conductors and the country. I shall always think myself honoured by the publication of any article of mine in it.

My bookseller in London having disappointed me, I am at present much behind hand in philosophical intelligence, by which I suffer much. In winter, also, I am not fond of going much into my laboratory; so that I do very little in the way of experiments at present; though, in other respects, I am not quite idle. I feel, however, the effect of years, and am by no means so active as I have been. Neither have I recovered from the effect of the fever I had in Philadelphia. I am much thinner and weaker; and this I fancy has been in some measure the cause of the ague which I have had lately, and which I never had before. What matters of importance have you in discussion?

April 17, 1802.

I am obliged to you for your curious account of the federal city; but it does not excite any wish to visit it. I shall be glad to know how long your session is likely to continue, and to be informed of any thing of a political nature that is not to be expected in a common newspaper.

Jan. 8, 1803.

I think myself much honoured by the respectful mention of me by your friends in Congress, and could wish to pay them a visit. But at my time of life, the inconvenience of a journey at this season of the year would be too great for me. As to the chaplainship to Congress, I should not think of it. They have my best wishes and prayers too, without any salary. I rejoice greatly in the present aspect of public affairs, and hope it will long continue. Our excellent President will, I doubt not, keep war and every other evil as far as he can from us.

J. PRIESTLEY.

[A Letter from John S. Mitchell, of Sunbury, states some particulars of the disease which preceded his death—a stricture at the upper orifice of the stomach, &c. The event took place on the 6th of February, 1804.]

(NOTE K.)

It is long since I received a letter from my old friend, Doctor Mitchell. I have, indeed, heard of him now and then through another medium: but it would be agreeable to me to see a letter written by himself.

I have been so much indebted to him for the extensive circulation of my grammar, in my native country, that I am solicitous he would accept a copy of the new edition of it, which I lately completed. The first volume of this octavo impression, besides many corrections and alterations, contains more than forty pages of additional matter: and the author ventures to presume that this third edition of the book, in its present form, will be found to be not a little superior to all the preceding impressions.

It will give me pleasure to hear that my friend's health continues to be good, and that he is yet able to pursue the path of usefulness in which he has long travelled. That he may be blessed with as great a portion of true enjoyment as this mutable, unsatisfying world can afford, and when his setting sun approaches, may be cheered by the prospect of a bright and happy day that shall last forever, is my earnest desire.

It will be pleasing to my friend to be informed that now, in the 72nd year of my age, I am favoured with a comfortable state of health, though I have been confined to my sitting and lodging rooms, for more than six years. I can sit up through the day, read and write a little, and see a few of my select friends; but the weakness of my voice, which is often confined to a whisper, precludes me from having company that might otherwise be gratifying to me; and I am often obliged to deny myself this satisfaction. I am, however, amidst my various privations, under deep obligations to Divine Providence, for the many blessings which I enjoy; and I earnestly hope that I may be enabled and disposed to improve them all to the glory of the Great Giver of all good, and to my own final well being.

Be so obliging as to remember me very respectfully to our worthy friend, Dr. Samuel Miller, who I hope enjoys a good state of health.

I remain thy sincere friend,

LINDLEY MURRAY.

ERRATUM.

In the Letter of the Committee, page 3, instead of *John* read *Joseph*.

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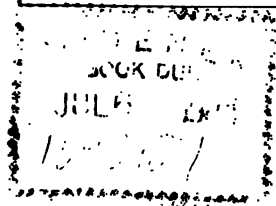








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